STIC Search Report
EIC 1700

STIC Database Tracking Number: 183467

TO:	From:
Dawn Garrett Location: REM 10C79 Art Unit : 1774 April 25, 2006 Case Serial Number: 10/753249	Usha Shrestha Location: EIC 1700 REMSEN 4B28 Phone: 571/272-3519 usha.shrestha@uspto.gov

Search Notes

Access DB# 185487

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 4-17-2006
Art Unit: 1774 Phone Number ~~30~~ 2-1523 Serial Number: 10/753,249
Mail Box and Bldg/Room Location: _____ Results Format Preferred (circle): PAPER DISK E-MAIL
Remsen 1C079

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): (See Bib. Data Sheet Attached)

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search the aminoanthracene described in claim 2(i)

Thank you.

SCIENTIFIC REFERENCE BR
Sci & Tech Inf. Ctr.
APR 17 RECD
Pat. & T.M. Office

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STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher: Mike	NA Sequence (#) _____	STN 8 497.63
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) 1	Questel/Orbit _____
Date Searcher Picked Up: 4/24/06	Bibliographic _____	Dr.Link _____
Date Completed: 4/25/06	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: 30	Fulltext _____	Sequence Systems _____
Clerical Prep Time: 30	Patent Family _____	WWW/Internet _____
Online Time: 60	Other _____	Other (specify) _____

PTO-1590 (8-01)

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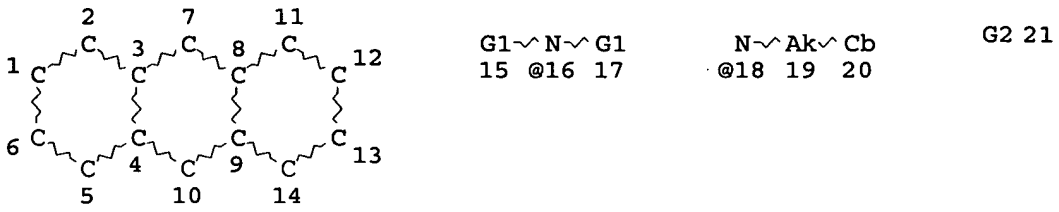

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

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L35 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2006:50981 HCAPLUS
DOCUMENT NUMBER: 144:117548
TITLE: Organic electroluminescent devices with high

luminosity and long lifetime and amines therefor

INVENTOR(S): Totani, Yoshiyuki; Tanabe, Yoshimitsu; Ochi, Takahiko; Tsukada, Hidetaka; Shimamura, Takehiko

PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 64 pp.
CODEN: JKXXAF

DOCUMENT TYPE: **Patent**

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006016384	A2	20060119	JP 2005-159559 <--	20050531

PRIORITY APPLN. INFO.: JP 2004-165607 A 20040603 <--

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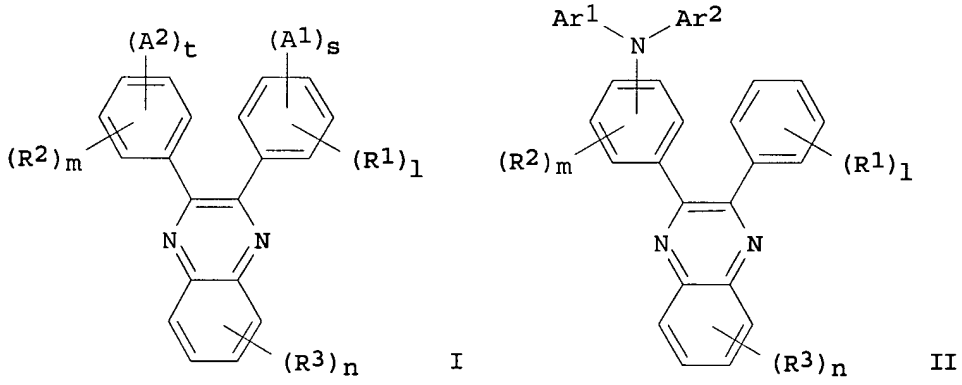


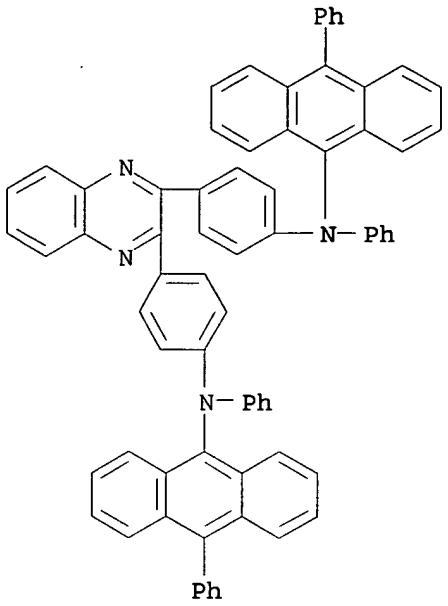
I II

AB The amines are I [R1-R3 = halo, amino, Xn'Z (Z = linear, branched, or cyclic alkyl, aryl, aralkyl; X = O, S; n' = 0, 1); l, m, n = 0-4; A1, A2 = Ar1Ar2N (Ar1, Ar2 = aryl, linear, branched, or cyclic alkyl, aralkyl); s, t = 0-5; s + l ≤5; t + m ≤5; s and/or t ≥1] or II [R1, R2 = halo, Xn'Z (Z, X, n' = same as above); R3 = halo, amino, Xn'Z (Z, X, n' = same as above); l, m, n = 0-4; Ar1, Ar2 = same as above]. Also claimed are organic EL devices (e.g., LCD backlight, planar light sources) having the amines between a pair of electrodes.

IT **873000-40-9P**
(substituted 2,3-diphenylquinoxalines for organic electroluminescent devices with high **luminosity** and long lifetime)

RN 873000-40-9 HCAPLUS

CN 9-Anthracenamine, N,N'-(2,3-quinoxalinediyl-di-4,1-phenylene)bis[N,10-diphenyl- (9CI) (CA INDEX NAME)



CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 28

IT 873000-29-4P 873000-30-7P 873000-31-8P 873000-32-9P
873000-33-0P 873000-34-1P 873000-35-2P 873000-36-3P
873000-38-5P 873000-39-6P **873000-40-9P** 873000-41-0P
873000-42-1P
(substituted 2,3-diphenylquinoxalines for organic electroluminescent devices with high **luminosity** and long lifetime)

L35 ANSWER 2 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:1242866 HCAPLUS
DOCUMENT NUMBER: 143:469214
TITLE: Anthracene compounds for light-emitting and hole transport layers of organic electroluminescent devices
INVENTOR(S): Yu, Chen-Ping; Ko, Chung-Wen
PATENT ASSIGNEE(S): Taiwan
SOURCE: U.S. Pat. Appl. Publ., 14 pp.
CODEN: USXXCO
DOCUMENT TYPE: **Patent**
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005260442	A1	20051124	US 2004-946895	2004 0922

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PRIORITY APPLN. INFO.: TW 2004-93114612 A 2004 0524

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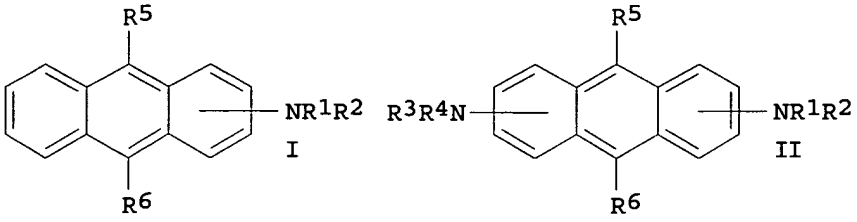
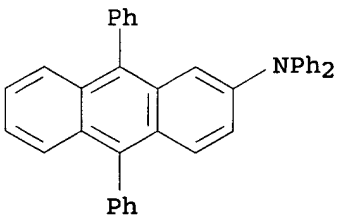


AB An anthracene compound for an organic electroluminescent device has formula (I) or (II), wherein R1, R2, R3, R4, R5, and R6 are each individually an unsubstituted or substituted aryl group having 6 to 20 carbon atoms, an unsubstituted or substituted heteroaryl group having 6 to 20 carbon atoms, or an unsubstituted or substituted alkyl group having 1 to 12 carbon atoms, wherein the substituent is C1-10 alkyl, C1-10 alkoxy, or halogen. As an example, 2-diphenylamino-9,10-di-(2-naphthyl)anthracene, 2-diphenylamino-9,10-bis-(2,4-difluorophenyl)anthracene, and 2,6-bis(diphenylamino)-9,10-di-(2-naphthyl)anthracene were synthesized from 2-amino- or 2,6-diamino-9,10-anthraquinone by successive N-arylation and reductive arylation in the central ring. Luminescence spectra of the first two compds. are shown. The first two compds. emit green light with the maximum intensity at 504 and 513 nm, resp. In addition, the HOMO levels of these two compds. were measured to be 5.40 eV and 5.85 eV, resp., indicating that they are suitable for use as a hole transport layer.

IT **868850-53-7 868850-54-8 868850-55-9 868850-56-0 868850-57-1 868850-58-2 868850-59-3 868850-60-6 868850-61-7 868850-62-8**
(anthracene compds. for **light-emitting** and hole transport layers of organic electroluminescent devices)

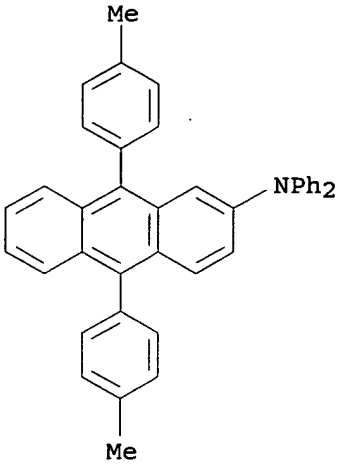
RN 868850-53-7 HCAPLUS

CN 2-Anthracenamine, N,N,9,10-tetraphenyl- (9CI) (CA INDEX NAME)

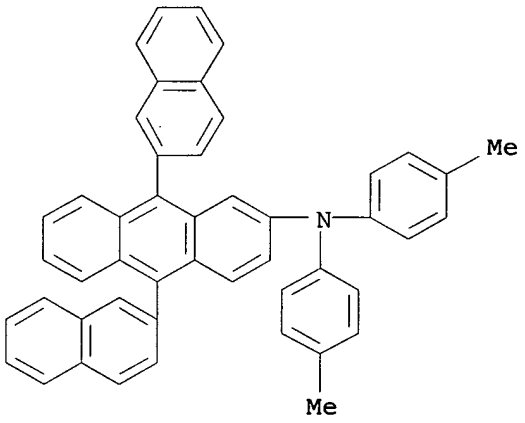


RN 868850-54-8 HCAPLUS

CN 2-Anthracenamine, 9,10-bis(4-methylphenyl)-N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 868850-55-9 HCAPLUS
CN 2-Anthracenamine, N,N-bis(4-methylphenyl)-9,10-di-2-naphthalenyl- (9CI) (CA INDEX NAME)



RN 868850-56-0 HCAPLUS
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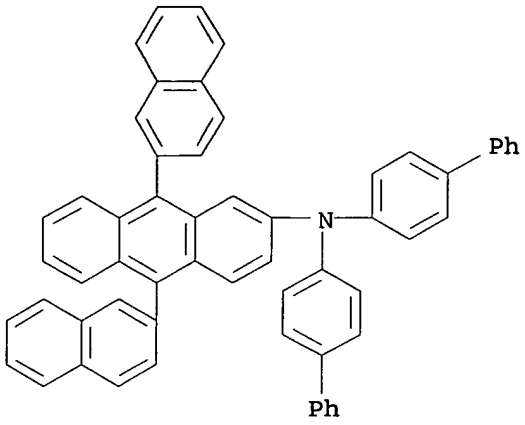
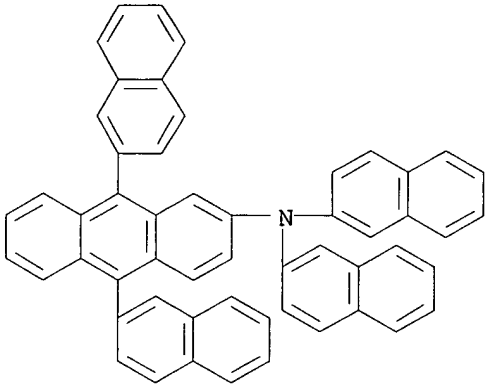


RN 868850-57-1 HCAPLUS
CN 2-Anthracenamine, N,N,9,10-tetra-2-naphthalenyl- (9CI) (CA INDEX NAME)



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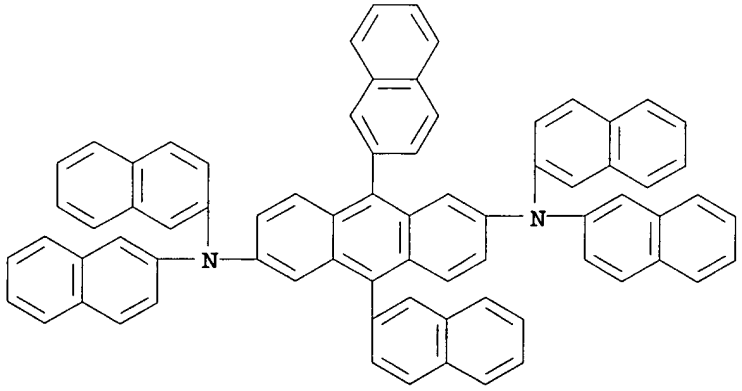

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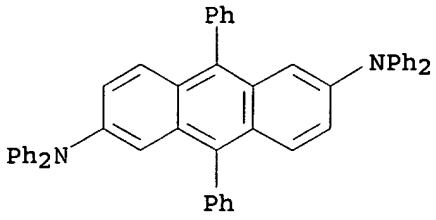
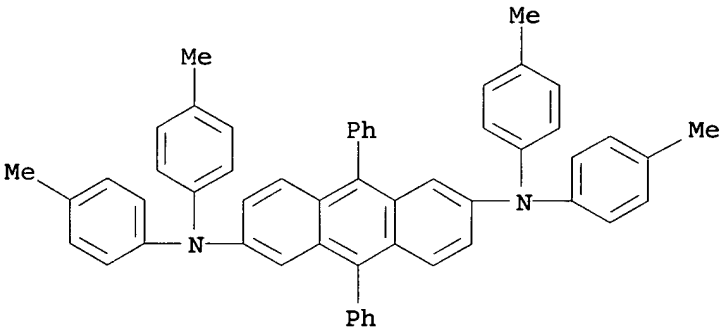


RN 868850-60-6 HCAPLUS
CN 2,6-Anthracenediamine, N,N,N',N'-tetrakis(4-methylphenyl)-9,10-diphenyl- (9CI) (CA INDEX NAME)



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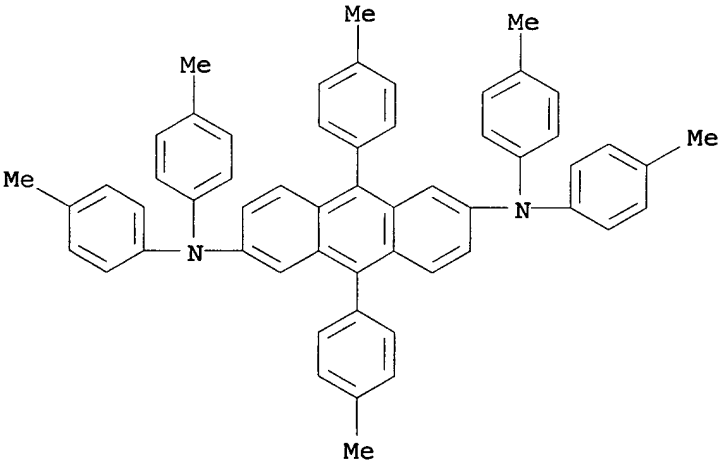

RN 868850-62-8 HCAPLUS
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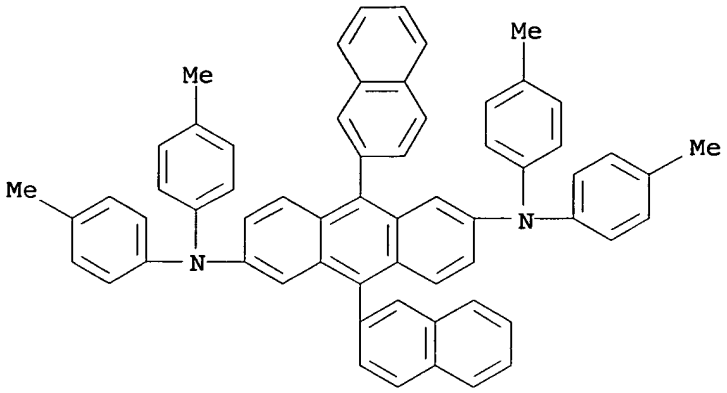
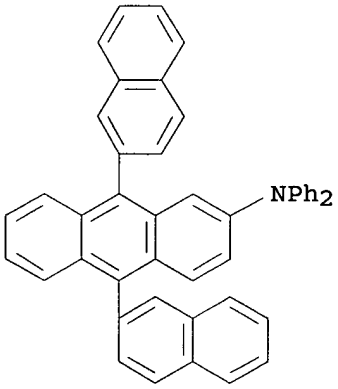
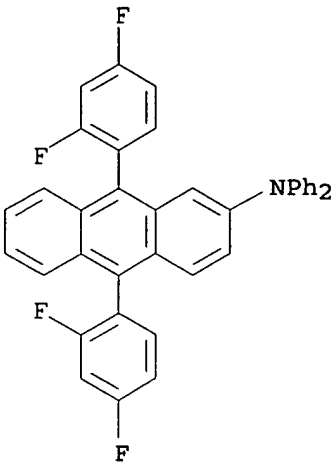
2-naphthalenyl- (9CI) (CA INDEX NAME)



IT **868850-48-0P 868850-49-1P**
(anthracene compds. for **light-emitting** and hole transport layers of organic electroluminescent devices)
RN 868850-48-0 HCAPLUS
CN 2-Anthracenamine, 9,10-di-2-naphthalenyl-N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 868850-49-1 HCAPLUS
CN 2-Anthracenamine, 9,10-bis(2,4-difluorophenyl)-N,N-diphenyl- (9CI) (CA INDEX NAME)



IT **868850-52-6P**
(anthracene compds. for **light-emitting** and hole transport layers of organic electroluminescent devices)
RN 868850-52-6 HCAPLUS
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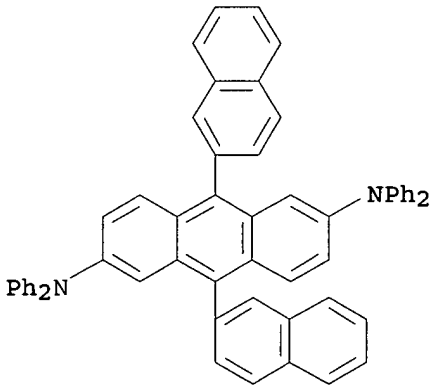

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ICS C07C211-00; C09K011-06
INCL 428690000; 428917000; 313504000; 313506000; 564427000; 564428000; 564433000; 564434000
CC 73-5 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
IT **868850-53-7 868850-54-8 868850-55-9 868850-56-0 868850-57-1 868850-58-2 868850-59-3 868850-60-6 868850-61-7 868850-62-8**
(anthracene compds. for **light-emitting** and hole transport layers of organic electroluminescent devices)
IT **868850-48-0P 868850-49-1P**
(anthracene compds. for **light-emitting** and hole transport layers of organic electroluminescent devices)

IT **868850-52-6P**
(anthracene compds. for **light-emitting** and hole transport layers of organic electroluminescent devices)

L35 ANSWER 3 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:822405 HCAPLUS
DOCUMENT NUMBER: 143:219228
TITLE: Adamantanes having o-terphenyl structures, and their organic electroluminescent devices showing high luminescence efficiency and good heat resistance
INVENTOR(S): Ikai, Masamichi; Kajioka, Takanori; Takeuchi, Hisato; Yamamoto, Satoru; Noda, Hiroshi; Fujikawa, Hisayoshi; Taga, Yasunori
PATENT ASSIGNEE(S): Toyota Central Research and Development Laboratories Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005220080	A2	20050818	JP 2004-29906	2004 0205
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PRIORITY APPLN. INFO.:			JP 2004-29906	2004 0205
			<--	

GI

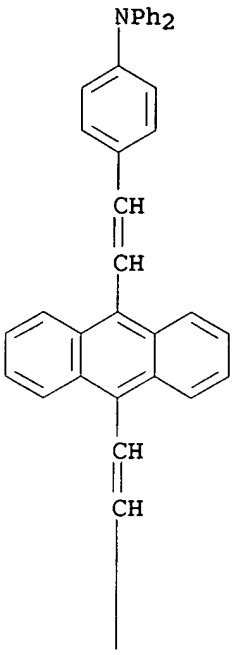
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The adamantanes have substituents containing o-terphenyl structures, preferably, I or II (R17-R58 = H, C1-6 alkyl, C2-6 alkenyl, etc.; l = 0-10; m + n = 0-10). Thus, a blue-emitting organic electroluminescent devices having an emitter layer containing 2,2-bis[4-(o-terphenyl)]adamantane and Ir(III) bis[2-(4,6-difluorophenyl)pyridinato-N,C2']picolinate is exemplified.

IT **138685-19-5**
(dopant, blue-emitting; adamantanes having o-terphenyl structures for organic electroluminescent devices showing high **luminescence** efficiency and good heat resistance)

RN 138685-19-5 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyldi-2,1-ethenediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



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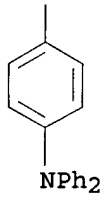


IC ICM C07C013-605
ICS C09K011-06; H05B033-14
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25
IT **138685-19-5** 376367-93-0
(dopant, blue-emitting; adamantanes having o-terphenyl structures for organic electroluminescent devices showing high **luminescence** efficiency and good heat resistance)

L35 ANSWER 4 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:611720 HCAPLUS
DOCUMENT NUMBER: 143:142456
TITLE: Stable organic **light-emitting** devices using aminoanthracenes
INVENTOR(S): Klubek, Kevin P.; Tang, Ching W.
PATENT ASSIGNEE(S): Eastman Kodak Company, USA
SOURCE: U.S. Pat. Appl. Publ., 21 pp.

CODEN: USXXCO
DOCUMENT TYPE: **Patent**
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005153163	A1	20050714	US 2004-753249 <--	20040108
WO 2005071773	A1	20050804	WO 2004-US43890 <--	20041222

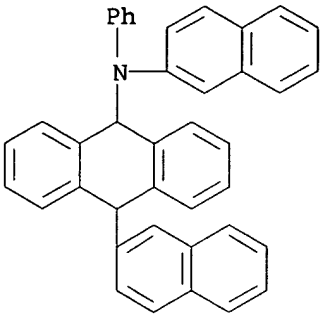
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2004-753249 A 20040108 <--

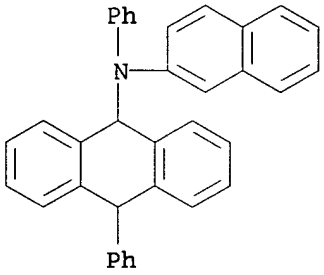
AB Organic **light-emitting** devices comprising a substrate, an anode, and a cathode disposed over the substrate, and a **luminescent** layer disposed between the anode and the cathode are described in which the **luminescent** layer includes a host and ≥1 dopant, the host being selected to include a solid organic material comprising a **mixture** of ≥2 components, wherein the first component is an organic compound containing an aminoanthracene derivative, and the second component of the **mixture** contains an organic compound having a dipole moment larger than that of the first component.

IT **858135-96-3P 858135-97-4P 858135-98-5P 858135-99-6P**
(organic **light-emitting** devices using aminoanthracene derivative-containing **luminescent** layer host blends)

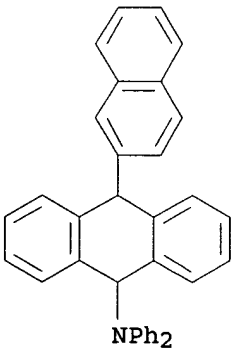
RN 858135-96-3 HCAPLUS
CN 9-Anthracenamine, 9,10-dihydro-N,10-di-2-naphthalenyl-N-phenyl- (9CI) (CA INDEX NAME)



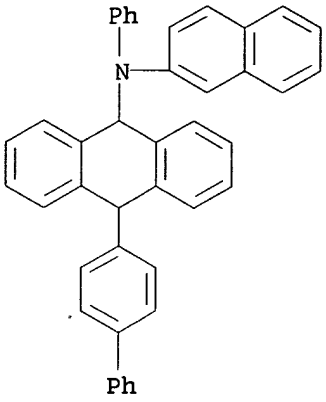
RN 858135-97-4 HCAPLUS
CN 9-Anthracenamine, 9,10-dihydro-N-2-naphthalenyl-N,10-diphenyl- (9CI) (CA INDEX NAME)



RN 858135-98-5 HCAPLUS
CN 9-Anthracenamine, 9,10-dihydro-10-(2-naphthalenyl)-N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 858135-99-6 HCAPLUS
CN 9-Anthracenamine, 10-[1,1'-biphenyl]-4-yl-9,10-dihydro-N-2-naphthalenyl-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
INCL 428690000; 428917000; 313504000; 313506000
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 76
ST org **light emitting** device aminoanthracene deriv
IT Electroluminescent devices
(organic; organic **light-emitting** devices using aminoanthracene derivative-containing **luminescent** layer host blends)
IT 284673-30-9, CFDMQA
(CFDMQA; organic **light-emitting** devices using aminoanthracene derivative-containing **luminescent** layer host blends)
IT 2085-33-8, Tris(8-quinolinol)aluminum 13978-85-3 14406-92-9 14514-42-2 14752-00-2 14855-54-0 15956-38-4 16842-52-7 136739-74-7 136781-05-0 148896-39-3, Bis(10-hydroxybenzo[h]quinolinato)beryllium 682334-86-7 682334-87-8
(organic **light-emitting** devices using aminoanthracene derivative-containing **luminescent** layer host blends)
IT 1047-16-1, Quinacridone 19205-19-7, N,N'-Dimethylquinacridone 38215-36-0, Coumarin 6 155306-71-1, C 545T 155306-72-2, Coumarin 525T 221455-80-7, N,N'-Diphenylquinacridone
(organic **light-emitting** devices using aminoanthracene derivative-containing **luminescent** layer host blends)
IT **858135-96-3P 858135-97-4P 858135-98-5P 858135-99-6P**
(organic **light-emitting** devices using aminoanthracene derivative-containing **luminescent** layer host blends)
IT 122-39-4, Diphenylamine, reactions 135-88-6, N-Phenyl-2-naphthylamine 1564-64-3, 9-Bromoanthracene 7726-95-6, Bromine, reactions 23674-20-6, 9-Bromo-10-phenylanthracene 32316-92-0, 2-Naphthylboronic acid
(organic **light-emitting** devices using aminoanthracene derivative-containing **luminescent** layer host blends)
IT 7424-72-8P 474688-73-8P
(organic **light-emitting** devices using aminoanthracene derivative-containing **luminescent** layer host

blends)

L35 ANSWER 5 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:589130 HCAPLUS
DOCUMENT NUMBER: 143:86448
TITLE: Single-layer organic el device
INVENTOR(S): Isobe, Shinichiro
PATENT ASSIGNEE(S): Mataka, Shuntaro, Japan; Takenaka, Shigeori
SOURCE: PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005061657	A1	20050707	WO 2004-JP19211	2004 1222

<--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

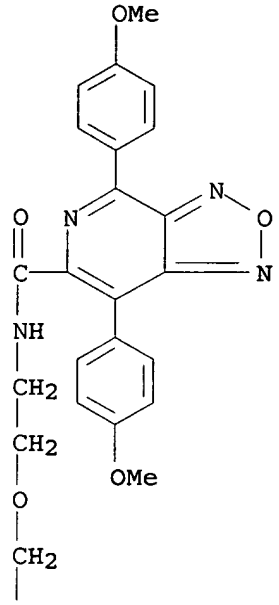
PRIORITY APPLN. INFO.: JP 2003-427275 A 2003 1224

<--

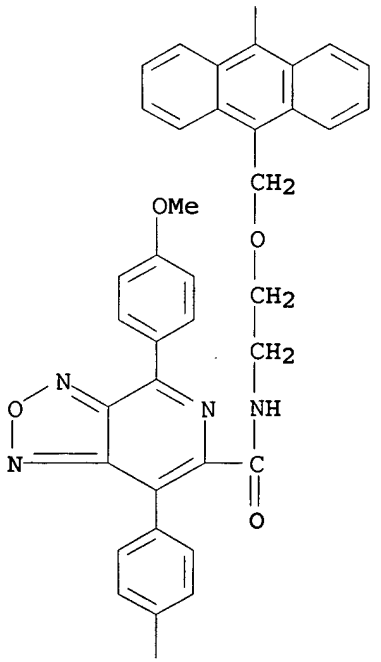
AB Disclosed is an organic EL dye enabling to provide an organic EL device which is capable of emitting a light at a low voltage even when it has a single-layer structure. Also disclosed is an organic EL device using such an organic EL dye. The organic EL dye is represented by the general formula: (Y-L)nXm where x is an n-valent charge-transporting group, Y is a light-emitting group, L is a linking group bonding the charge-transporting group and the light-emitting group, and m and n are resp. an integer not less than 1.

IT **855781-85-0P**
(single-layer organic **el** device)
RN 855781-85-0 HCAPLUS
CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxamide, N,N'-[9,10-anthracenediylbis[methylene(oxy-2,1-ethanediyl)]]bis[4,7-bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



PAGE 3-A

OMe

IC ICM C09K011-06
ICS H05B033-14
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 22, 41
IT **855781-85-0P** 855781-87-2P
(single-layer organic **el** device)
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 6 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:405145 HCAPLUS
DOCUMENT NUMBER: 142:454015
TITLE: Luminescent material containing anthracene compound and luminescent element using it
INVENTOR(S): Murase, Seiichiro; Nagao, Kazuma; Tominaga, Takeshi
PATENT ASSIGNEE(S): Toray Industries, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

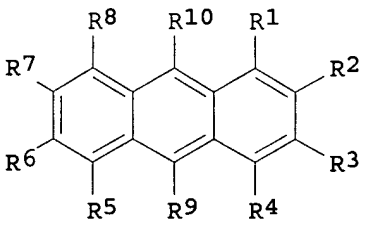
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005120296	A2	20050512	JP 2003-358843	2003 1020

<--

PRIORITY APPLN. INFO.: JP 2003-358843 2003 1020

<--

OTHER SOURCE(S): MARPAT 142:454015
GI



I

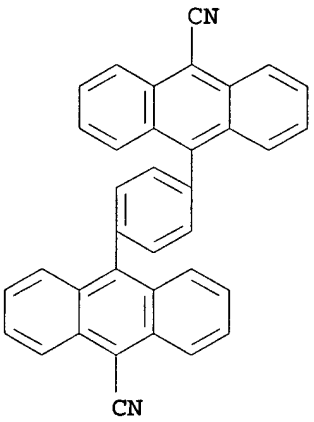
AB The luminescent material contains anthracene compds. represented by I [R1-R10 = H, alkyl, cycloalkyl, aralkyl, alkenyl,

cycloalkenyl, alkynyl, alkoxy, alkylthio, aryl ether, arylthio ether, aryl, heteroaryl, halo, cyano, aldehyde, carbonyl, ester, carbamoyl, amino, silyl; at least one of R1-R10 is substituted by cyano, heteroaryl containing electron-accepting N, and/or ethynyl represented by α.tplbond.Ar1 (Ar1 = aryl, heteroaryl; α = connection part with anthracene skeleton); R9 ≠ R10 = ethynyl]. The luminescent element has a light-emitting layer and an electron-transporting layer between electrodes, and the light-emitting layer contains I. The luminescent element emits blue light, and has high luminescent efficiency and durability. The luminescent element is useful for display devices, flat display panels, backlights, and so on.

IT **851086-23-2P**
(**luminescent** material containing blue-emitting anthracene compound for **luminescent** element with high **luminescent** efficiency and durability)

RN 851086-23-2 HCAPLUS

CN 9-Anthracenecarbonitrile, 10,10'-(1,4-phenylene)bis- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS H05B033-14; H05B033-22; C07C015-60; C07C255-52; C07D277-66

CC 73-5 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74

IT 97083-12-0P 103035-10-5P 721969-98-8P 851086-22-1P
851086-23-2P
(**luminescent** material containing blue-emitting anthracene compound for **luminescent** element with high **luminescent** efficiency and durability)

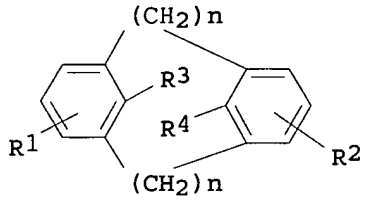
L35 ANSWER 7 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:365458 HCAPLUS
DOCUMENT NUMBER: 142:419729
TITLE: Metacyclophanes, and their organic electroluminescent devices showing high luminescence efficiency and intensity
INVENTOR(S): Okajima, Maki; Suzuki, Koichi; Ueno, Kazunori
PATENT ASSIGNEE(S): Canon Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**

LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

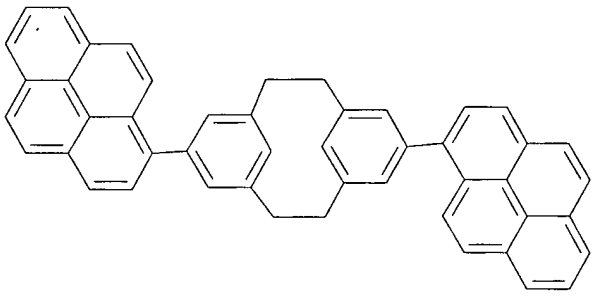
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005112784	A2	20050428	JP 2003-349216	2003 1008 <--

PRIORITY APPLN. INFO.: JP 2003-349216 2003 1008 <--

OTHER SOURCE(S): MARPAT 142:419729
GI



I



II

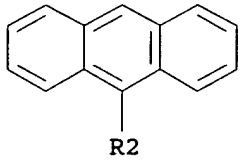
AB The metacyclophanes are I (R1-R4 = H, alkyl, alkoxy, aryl, etc.; R1 and/or R2 = aryl, heterocyclic group, condensed polycyclic aromatic group, condensed polycyclic heterocyclic group, substituted amino, substituted alkenyl, substituted boryl; n = 2-4). Thus, an organic electroluminescent device having an emitter layer containing coumarin and pyrenyl-containing metacyclophane II is exemplified.

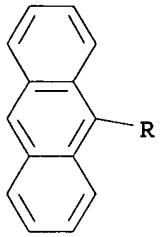
IT **850232-50-7**
(metacyclophanes for organic electroluminescent devices showing high **luminescence** efficiency and intensity)

RN 850232-50-7 HCAPLUS

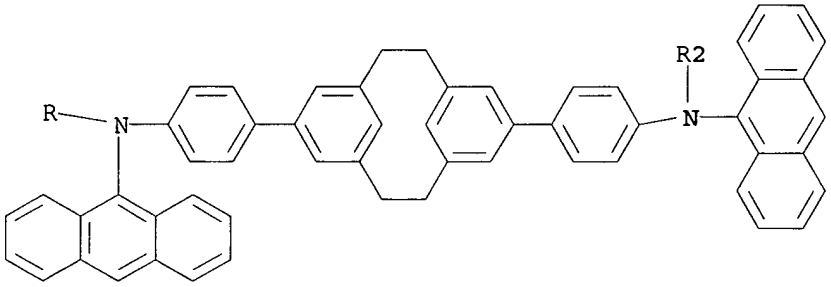
CN 9-Anthracenamine, N,N'-(tricyclo[9.3.1.14,8]hexadeca-1(15),4,6,8(16),11,13-hexaene-6,13-diyldi-4,1-phenylene)bis[N-9-anthracenyl- (9CI) (CA INDEX NAME)

PAGE 1-A





PAGE 2-A



IC ICM C07C013-271
ICS C09K011-06; H05B033-14; H05B033-22
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25
IT 850232-34-7 850232-35-8 850232-36-9 850232-37-0
850232-38-1 850232-39-2 850232-40-5 850232-41-6
850232-42-7 850232-43-8 850232-44-9 850232-45-0
850232-46-1 850232-47-2 850232-48-3 850232-49-4
850232-50-7 850232-51-8
(metacyclophanes for organic electroluminescent devices showing high **luminescence** efficiency and intensity)

L35 ANSWER 8 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:138322 HCAPLUS
DOCUMENT NUMBER: 142:228449
TITLE: Hole-transporting polymers and organic electroluminescent devices containing the same
INVENTOR(S): Ishii, Toru; Mashimo, Kiyokazu; Agata, Takeshi; Moriyama, Hiroaki; Ozaki, Tadayoshi; Hirose, Eiichi; Okuda, Daisuke; Yoneyama, Hiroto; Seki, Mieko; Sato, Katsuhiro

PATENT ASSIGNEE(S): Fuji Xerox Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005042004	A2	20050217	JP 2003-277732 <--	2003 0722

PRIORITY APPLN. INFO.: JP 2003-277732 <-- 2003 0722

AB The hole-transporting polymers involve repeating units of monomers which show hole-transporting property, have maximum optical absorption on the longer wave side than 360 nm in CH2Cl2, and the absolute value of reorientation energy [ABS(ΔH); the difference between the absolute value of ionizing energy necessary for forming cation radicals of the monomers and the absolute value of electron affinity generated when the cation radicals of the monomers become neutral mols.] ≤0.6 eV. Preferably, the polymer have, in the main chain backbones, tertiary aromatic amine structures, preferably represented by the general formula C6H4NArX(NArC6H4)k (k = 0, 1; X = divalent aromatic group, heterocyclic group; Ar = monovalent aromatic group, heterocyclic group). The organic electroluminescent devices having large emission intensity and high emission efficiency contain the hole-transporting polymers in ≥1 of organic compds. layers disposed between a pair of electrodes, ≥1 of which is transparent or translucent.

IT **838896-34-7P 838896-35-8P**
(hole-transporting polymers for organic **EL** devices)

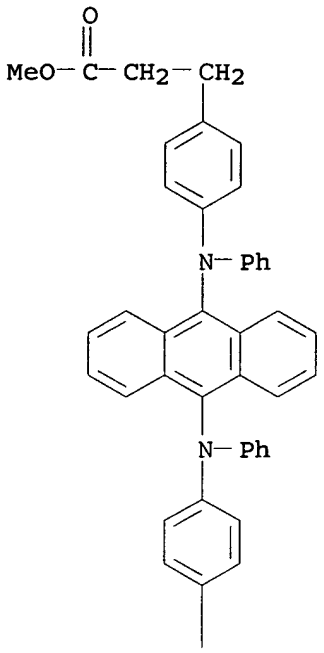
RN 838896-34-7 HCAPLUS

CN Benzenepropanoic acid, 4,4'-[9,10-anthracenediylbis(phenylimino)]bis-, dimethyl ester, polymer with 1,2-ethanediol (9CI) (CA INDEX NAME)

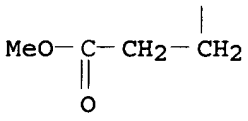
CM 1

CRN 838896-28-9
CMF C46 H40 N2 O4

PAGE 1-A

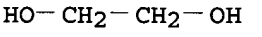


PAGE 2-A



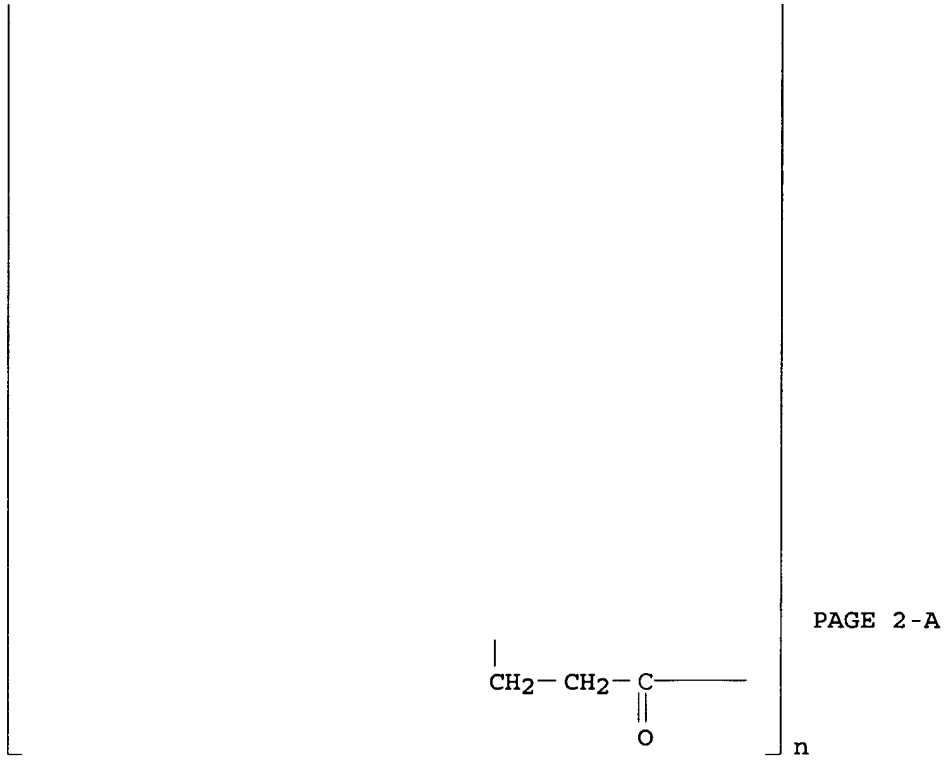
CM 2

CRN 107-21-1
CMF C2 H6 O2



RN 838896-35-8 HCAPLUS
CN Poly[oxy-1,2-ethanediyloxy(1-oxo-1,3-propanediyl)-1,4-phenylene(phenylimino)-9,10-anthracenediyl(phenylimino)-1,4-phenylene(3-oxo-1,3-propanediyl)] (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *



IC ICM C08G063-685
ICS C09K011-06; H05B033-14; H05B033-22
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38
IT **838896-34-7P 838896-35-8P** 842172-04-7P
842172-06-9P 842172-11-6P 842172-12-7P 842172-14-9P
842172-15-0P 842172-17-2P 842172-18-3P 842172-19-4P
842172-20-7P 842172-22-9P 842172-23-0P
(hole-transporting polymers for organic **EL** devices)

L35 ANSWER 9 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:33477 HCAPLUS
DOCUMENT NUMBER: 142:102875
TITLE: Anthracene compounds and organic electroluminescent devices using them with improved durability
INVENTOR(S): Tanabe, Yoshimitsu; Tsukada, Hidetaka; Shimamura, Takehiko; Totani, Yoshiyuki
PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005008559 A2 20050113 JP 2003-174603
2003
0619
<--

PRIORITY APPLN. INFO.: JP 2003-174603
2003
0619
<--

OTHER SOURCE(S): MARPAT 142:102875

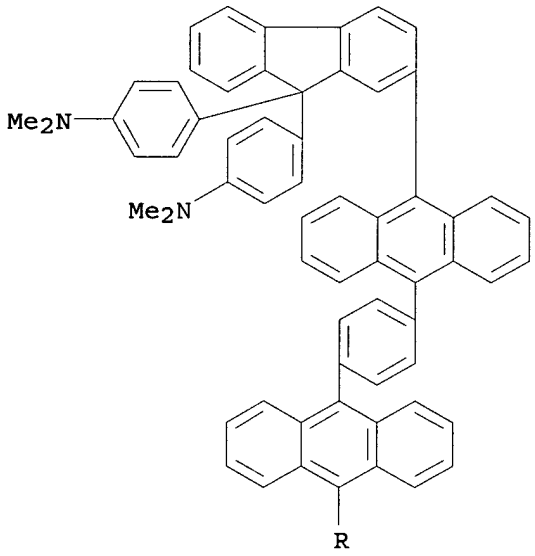
AB The compds., depicted as X1Q1ZQ2X2 [X1,2 = (un)substituted fluorenyl; Q1,2 = (un)substituted anthracenediyl; Z = (un)substituted phenylene], are contained in EL (electroluminescent) or hole-injection and -transport layers of the devices.

IT **817642-16-3P 817642-22-1P 817642-25-4P**
(anthracene compound, **EL** or hole-injection and -transport layer; organic **EL** devices with improved durability using anthracene compds.)

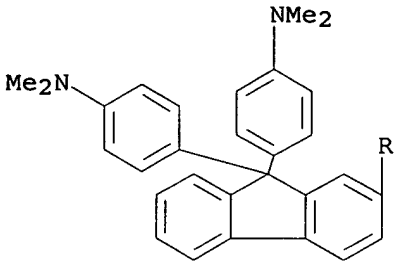
RN 817642-16-3 HCAPLUS

CN Benzenamine, 4,4',4'',4'''-[1,4-phenylenebis(10,9-anthracenediyl-9H-fluoren-2-yl-9-ylidene)]tetrakis[N,N-dimethyl- (9CI) (CA INDEX NAME)

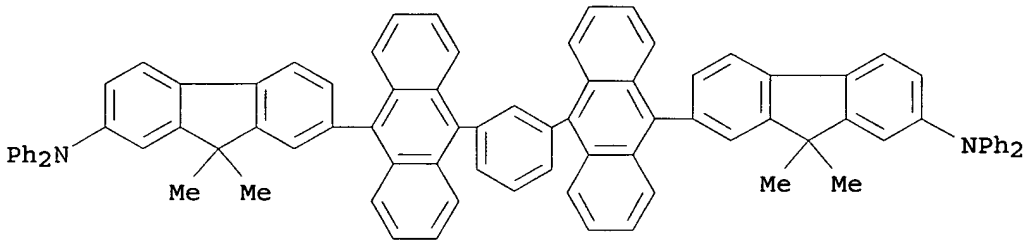
PAGE 1-A



PAGE 2-A

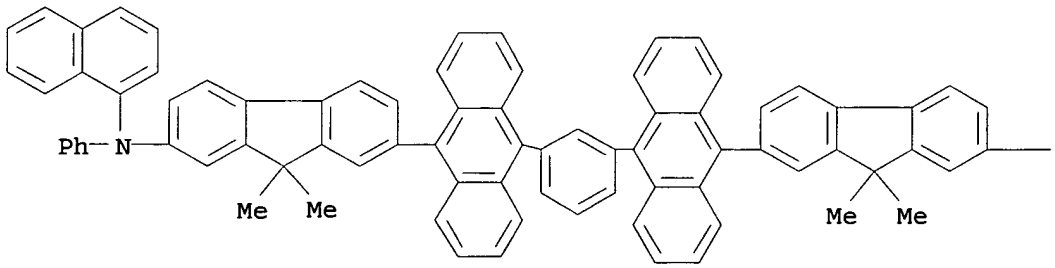


RN 817642-22-1 HCAPLUS
CN 9H-Fluoren-2-amine, 7,7'-[1,3-phenylenedi-10,9-anthracenediyl]bis[9,9-dimethyl-N,N-diphenyl- (9CI) (CA INDEX NAME)

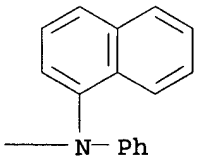


RN 817642-25-4 HCAPLUS
CN 9H-Fluoren-2-amine, 7,7'-(1,3-phenylenedi-10,9-anthracenediyl)bis[9,9-dimethyl-N-1-naphthalenyl-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

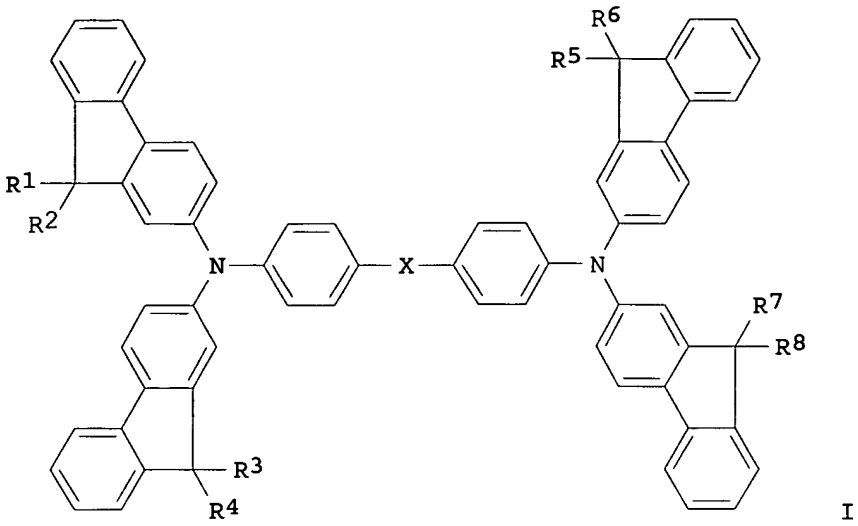


IC ICM C07C015-60
ICS C07C023-42; C07C211-60; C07C211-61; C09K011-06; H05B033-14; H05B033-22
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25
IT 817642-11-8P 817642-13-0P 817642-14-1P **817642-16-3P**
817642-18-5P 817642-19-6P 817642-20-9P **817642-22-1P**
817642-23-2P **817642-25-4P**
(anthracene compound, **EL** or hole-injection and -transport layer; organic **EL** devices with improved durability using anthracene compds.)

L35 ANSWER 10 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:957332 HCAPLUS
DOCUMENT NUMBER: 141:417627
TITLE: Luminescent material for electroluminescent device
INVENTOR(S): Shirota, Yasuhiko; Okumoto, Kenji; Yamate, Toshihiko
PATENT ASSIGNEE(S): Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004315366	A2	20041111	JP 2003-102474 <--	2003 0407
PRIORITY APPLN. INFO.:			JP 2003-52889 A <--	2003 0228

OTHER SOURCE(S): MARPAT 141:417627
GI



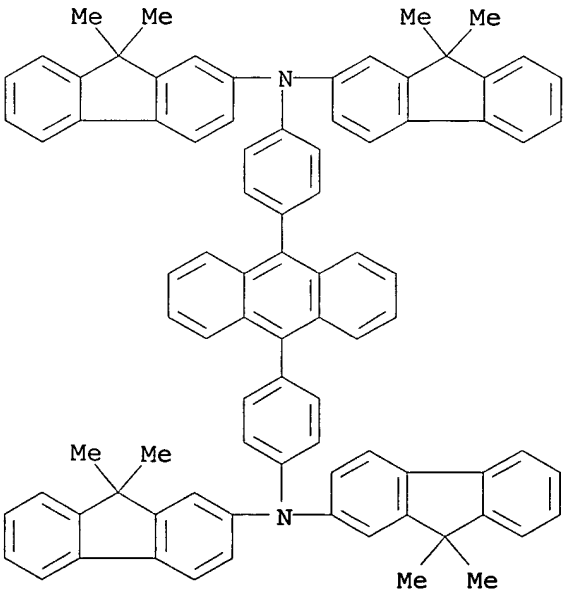
I

AB The invention relates to a luminescent material for an electroluminescent device, represented by I [R1-8 = H, C1-6 alkyl, and C1-6 alkoxy; and X = aromatic group, preferably electron accepting group].

IT **791816-80-3P**
(**luminescent** material with high glass transition temperature for electroluminescent device)

RN 791816-80-3 HCAPLUS

CN 9H-Fluoren-2-amine, N,N'-(9,10-anthracenediyldi-4,1-phenylene)bis[N-(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl- (9CI) (CA INDEX NAME)



IC ICM C07C211-61

ICS C07D213-38; C07D285-10; C07D333-20; C07D417-04; C09K011-06; H05B033-14
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25
IT 486405-31-6P 791816-79-0P **791816-80-3P** 791816-81-4P 791816-84-7P
(**luminescent** material with high glass transition temperature for electroluminescent device)

L35 ANSWER 11 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:902330 HCAPLUS
DOCUMENT NUMBER: 141:386152
TITLE: Aromatic amine derivative and organic electroluminescent device employing the same
INVENTOR(S): Funahashi, Masakazu
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004092111	A1	20041028	WO 2004-JP140	2004 0113
EP 1612202	A1	20060104	EP 2004-701680	2004 0113

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RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

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R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

PRIORITY APPLN. INFO.:
JP 2003-106231 A 2003 0410
<--
WO 2004-JP140 W 2004 0113
<--

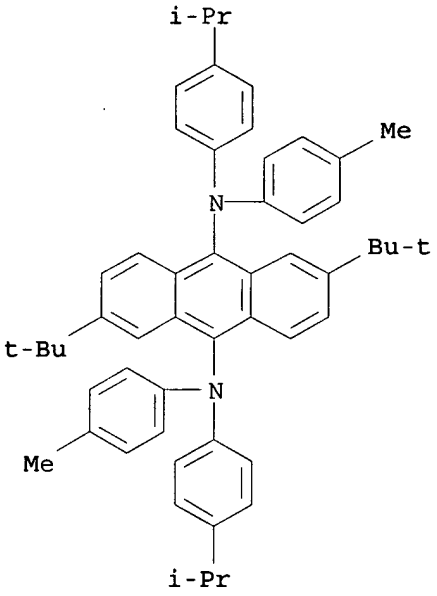
OTHER SOURCE(S): MARPAT 141:386152
AB Disclosed is an aromatic amine derivative having a specific structure

comprising a substituted anthracene structure and connected thereto an amine structure substituted by a substituted benzene ring; and an organic electroluminescent device comprising a cathode, an anode, and ≥1 thin organic film layers sandwiched therebetween which comprise at least a **luminescent** layer, wherein at least 1 of the thin organic film layers consists only of the aromatic amine derivative or contains the derivative as a component of a **mixture** The device is high in **luminance** and **luminescence** efficiency and has a long life. The aromatic amine derivative is a novel 1 which realizes the device.

IT **668020-34-6P 782504-30-7P 782504-31-8P**
782504-32-9P 782504-34-1P 782504-36-3P
(aromatic amine derivative for organic electroluminescent device)

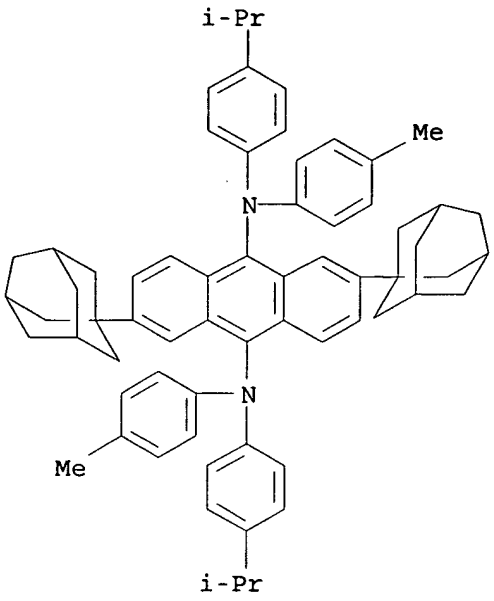
RN 668020-34-6 HCAPLUS

CN 9,10-Anthracenediamine, 2,6-bis(1,1-dimethylethyl)-N,N'-bis[4-(1-methylethyl)phenyl]-N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

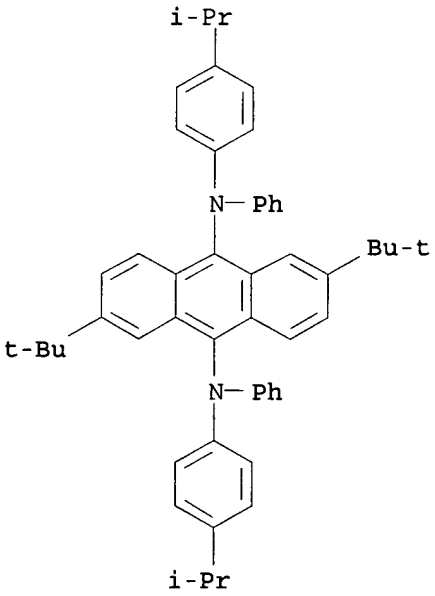


RN 782504-30-7 HCAPLUS

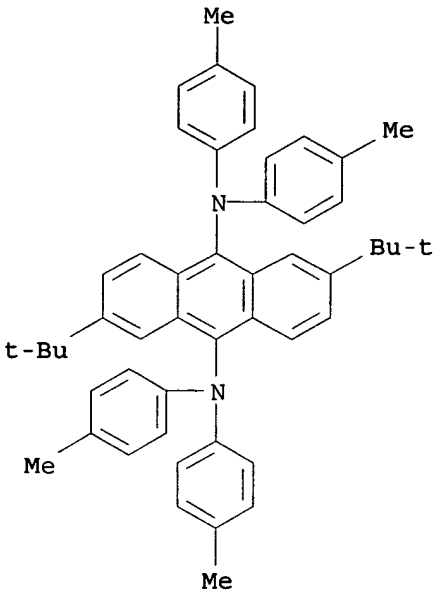
CN 9,10-Anthracenediamine, N,N'-bis[4-(1-methylethyl)phenyl]-N,N'-bis(4-methylphenyl)-2,6-bis(tricyclo[3.3.1.13,7]dec-1-yl)- (9CI) (CA INDEX NAME)



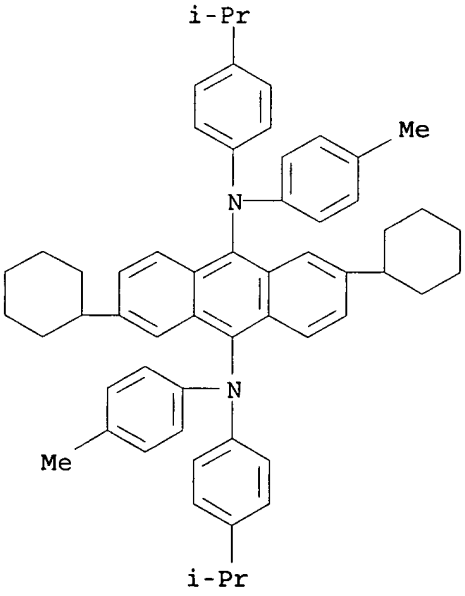
RN 782504-31-8 HCAPLUS
CN 9,10-Anthracenediamine, 2,6-bis(1,1-dimethylethyl)-N,N'-bis[4-(1-methylethyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



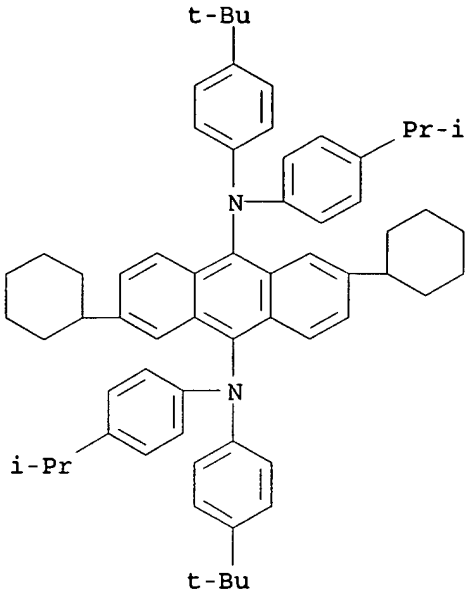
RN 782504-32-9 HCAPLUS
CN 9,10-Anthracenediamine, 2,6-bis(1,1-dimethylethyl)-N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 782504-34-1 HCAPLUS
CN 9,10-Anthracenediamine, 2,6-dicyclohexyl-N,N'-bis[4-(1-methylethyl)phenyl]-N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 782504-36-3 HCAPLUS
CN 9,10-Anthracenediamine, 2,6-dicyclohexyl-N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-bis[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



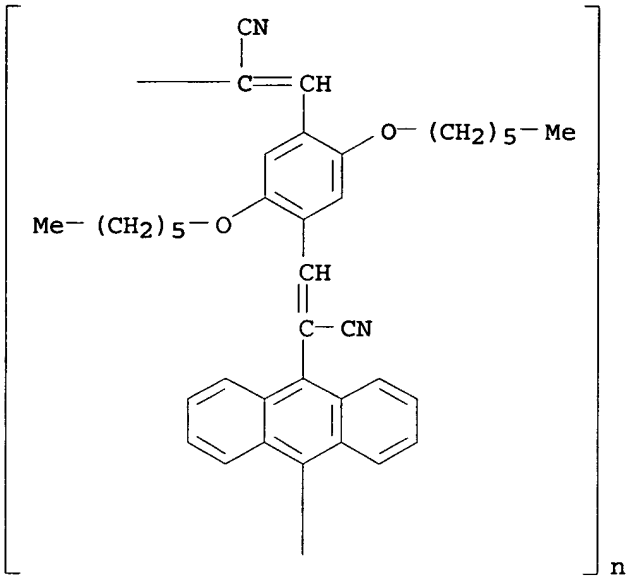
IC ICM C07C211-61
ICS C09K011-06; H05B033-14; H05B033-22
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 74
IT **Luminescent** substances
(electroluminescent; aromatic amine derivative for organic electroluminescent device)
IT **668020-34-6P 782504-30-7P 782504-31-8P**
782504-32-9P 782504-34-1P 782504-36-3P
(aromatic amine derivative for organic electroluminescent device)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 12 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:862794 HCAPLUS
DOCUMENT NUMBER: 143:67585
TITLE: Technologies for preparation of stable monochrome displays based on organic electroluminescent materials
AUTHOR(S): Plavich, M. L.; Zubov, V. P.; Borisov, A. G.; Plavich, L. A.; Korsakov, V. S.
CORPORATE SOURCE: Russia
SOURCE: Elektronnaya Promyshlennost (2004), (3), 101-108
CODEN: EEPREY; ISSN: 0207-6357
PUBLISHER: OAO TsNII "Elektronika"
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB OLEDs were prepared consisting of an ITO anode, PNAB hole-transport layer, organic luminophor [e.g., Alq3 or poly(phenylenevinylenes)], and two-layer cathode comprising an Al/Ca alloy (≤10% Ca) and a pure Al layer. Current-voltage (5-6 V threshold) and intensity-current relationships were given.
IT **625437-65-2P**

(**luminophor**; technologies for preparation of stable monochrome displays based on organic electroluminescent materials)

RN 625437-65-2 HCAPLUS

CN Poly[9,10-anthracenediyl(1-cyano-1,2-ethenediyl)[2,5-bis(hexyloxy)-1,4-phenylene](2-cyano-1,2-ethenediyl)] (9CI) (CA INDEX NAME)



CC 73-5 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)

IT 138184-36-8P 151903-54-7P 209625-38-7P 210475-60-8P
625437-65-2P 625437-66-3P 854092-08-3P 854092-10-7P
(**luminophor**; technologies for preparation of stable monochrome displays based on organic electroluminescent materials)

L35 ANSWER 13 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:756795 HCAPLUS

DOCUMENT NUMBER: 141:285537

TITLE: Organic electroluminescent device employing a derivative of 9,10-diaminoanthracene as a green luminescent dopant

INVENTOR(S): Seo, Jeong Dae; Kim, Hee Jung; Lee, Kyung Hoon; Oh, Hyoung Yun; Kim, Myung Seop; Park, Chun Gun

PATENT ASSIGNEE(S): LG Electronics Inc., S. Korea

SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2

DOCUMENT TYPE: **Patent**

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004078872	A2	20040916	WO 2004-KR472	2004 0305

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WO 2004078872 A3 20041216
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,
ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,
KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,
MK, MN, MW, MX, MZ, NA, NI, NO
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW,
AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR,
HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2004209118 A1 20041021 US 2004-792130
2004
0304
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EP 1603990 A2 20051214 EP 2004-717900
2004
0305
<--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
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EE, HU, PL, SK

PRIORITY APPLN. INFO.: KR 2003-13700 A
2003
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KR 2003-20468 A
2003
0401
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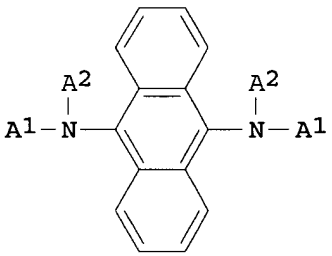
WO 2004-KR472 W
2004
0305
<--

OTHER SOURCE(S): MARPAT 141:285537

GI



I

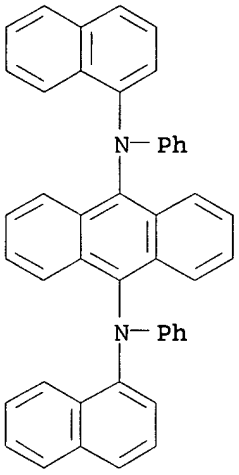
AB Organic electroluminescent devices (OLEDs) are described which comprise a substrate; a first and second electrodes formed on the substrate; and a light-emitting layer formed between the first electrode and the second electrode, with the light-emitting layer having a plurality of materials and being a green luminescent material using a dopant with chemical formula I where at least one of A1 and A2 is selected from a substituted or non-substituted aromatic group, a heterocyclic group, an aliphatic group and hydrogen. The materials forming the light-emitting layer together with the material of chemical formula (I) may have the formula B1-X-B2 where X

is selected from naphthalene, fluorine, anthracene, phenanthrene, pyrene, perylene, quinoline, and isoquinoline; and at least one of B1 and B2 is selected from aryl, alkylaryl, alkoxyaryl, arylaminoaryl, alkylamino, and arylallyl.

IT **177799-14-3 177799-16-5 189263-82-9 190974-21-1 473717-08-7 756899-41-9 756899-42-0 756899-43-1 756899-44-2 756899-45-3 756899-46-4 756899-47-5 756899-48-6 756899-49-7 756899-50-0 756899-54-4 756899-55-5 756899-56-6 756899-57-7 756899-58-8 756899-59-9 756899-60-2 756899-61-3 756899-64-6 756899-68-0 756899-69-1 756899-70-4 756899-71-5**
(organic electroluminescent device employing derivative of 9,10-diaminoanthracene as green **luminescent** dopant)

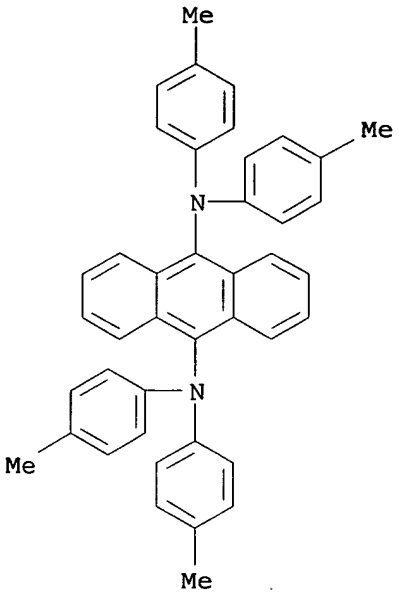
RN 177799-14-3 HCAPLUS

CN 9,10-Anthracenediamine, N,N'-di-1-naphthalenyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)

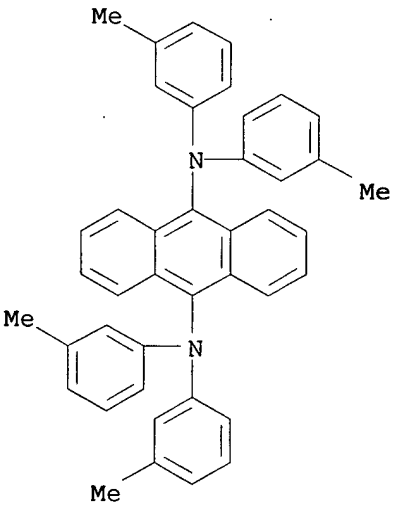


RN 177799-16-5 HCAPLUS

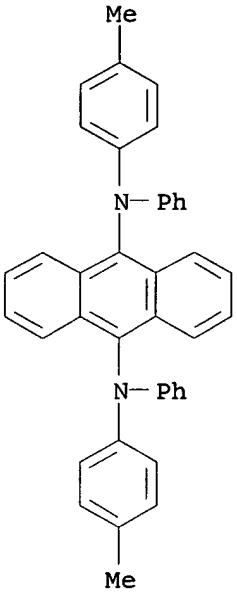
CN 9,10-Anthracenediamine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



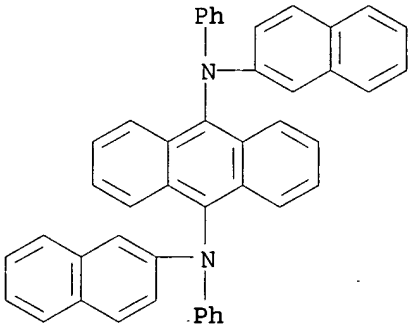
RN 189263-82-9 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetrakis(3-methylphenyl)- (9CI) (CA INDEX NAME)



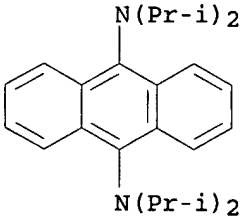
RN 190974-21-1 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis(4-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



RN 473717-08-7 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-di-2-naphthalenyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)

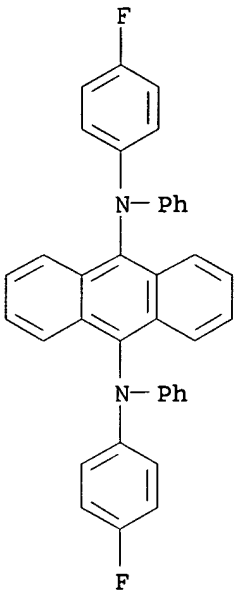


RN 756899-41-9 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetrakis(1-methylethyl)- (9CI) (CA INDEX NAME)

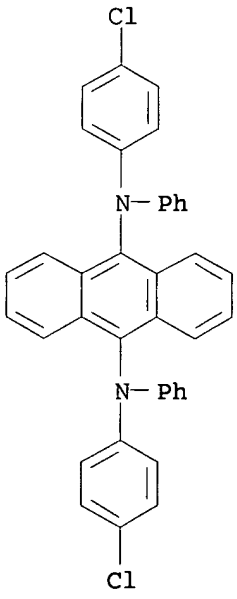


RN 756899-42-0 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis(4-fluorophenyl)-N,N'-diphenyl-

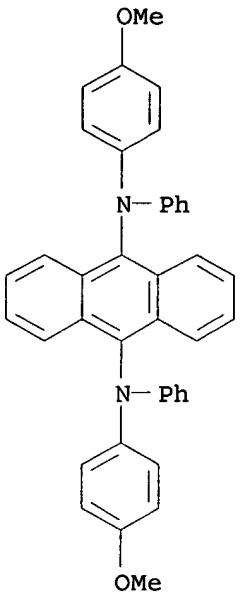
(9CI) (CA INDEX NAME)



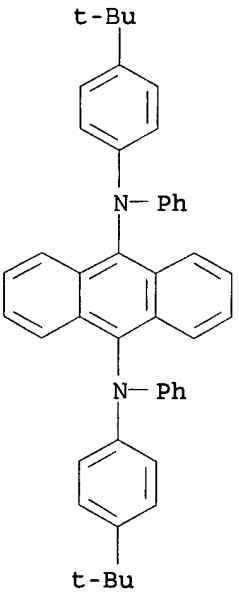
RN 756899-43-1 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis(4-chlorophenyl)-N,N'-diphenyl-
(9CI) (CA INDEX NAME)



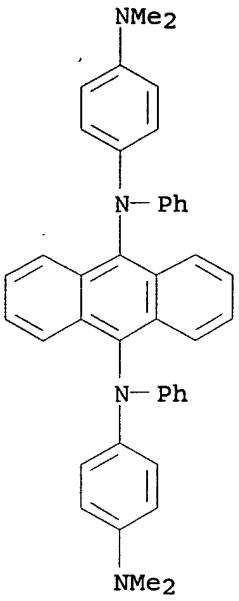
RN 756899-44-2 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis(4-methoxyphenyl)-N,N'-diphenyl-
(9CI) (CA INDEX NAME)



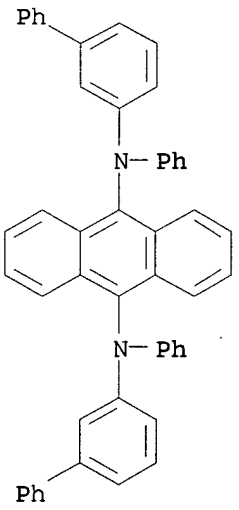
RN 756899-45-3 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



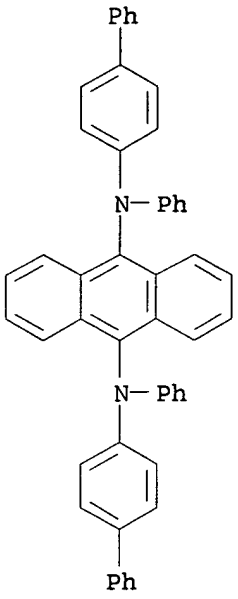
RN 756899-46-4 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis[4-(dimethylamino)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



RN 756899-47-5 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis([1,1'-biphenyl]-3-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

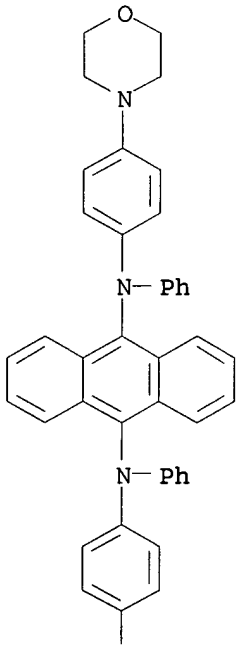


RN 756899-48-6 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis([1,1'-biphenyl]-4-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

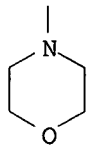


RN 756899-49-7 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis[4-(4-morpholinyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)

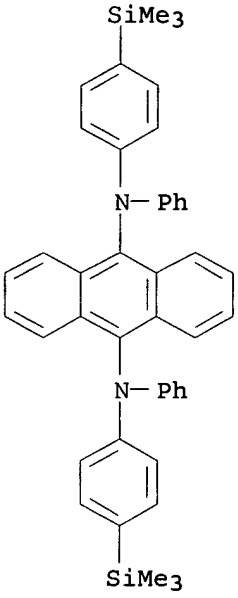
PAGE 1-A



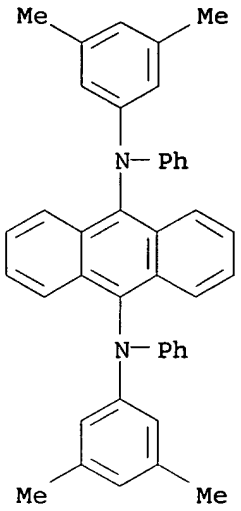
PAGE 2-A



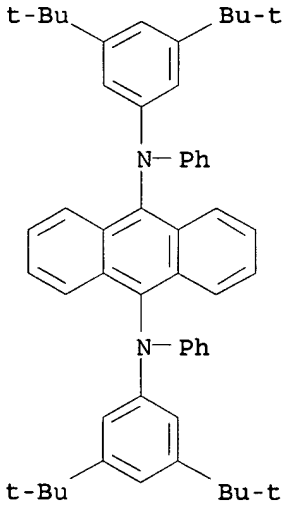
RN 756899-50-0 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-diphenyl-N,N'-bis[4-(trimethylsilyl)phenyl]- (9CI) (CA INDEX NAME)



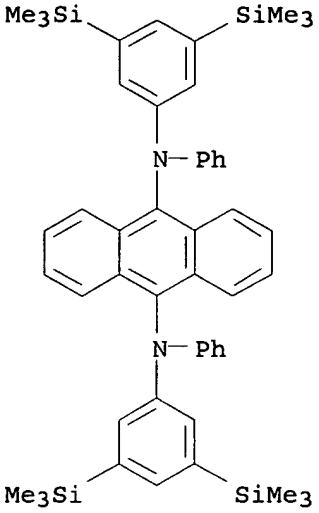
RN 756899-54-4 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis(3,5-dimethylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



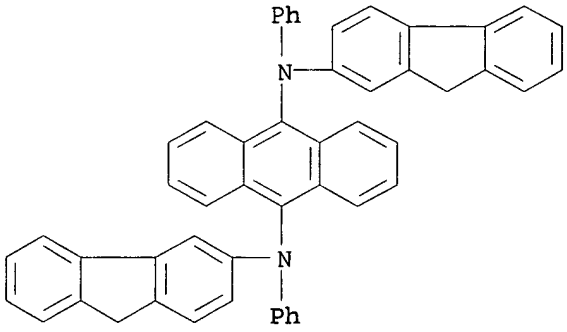
RN 756899-55-5 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis[3,5-bis(1,1-dimethylethyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



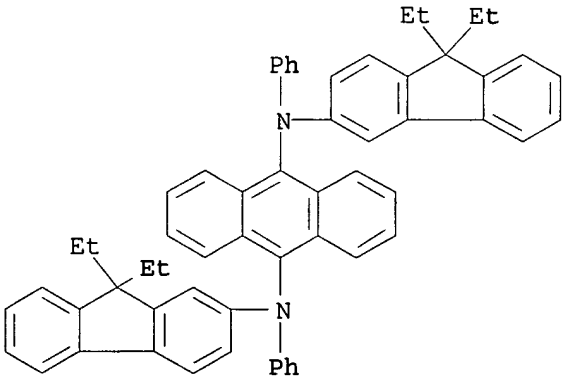
RN 756899-56-6 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis[3,5-bis(trimethylsilyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



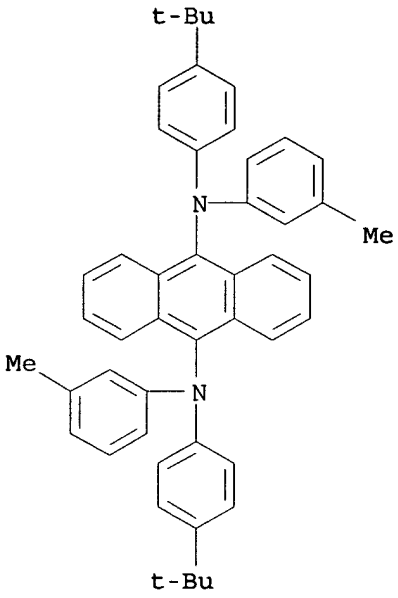
RN 756899-57-7 HCAPLUS
CN 9,10-Anthracenediamine, N-9H-fluoren-2-yl-N'-9H-fluoren-3-yl-N,N'-diphenyl- (9CI) (CA INDEX NAME)



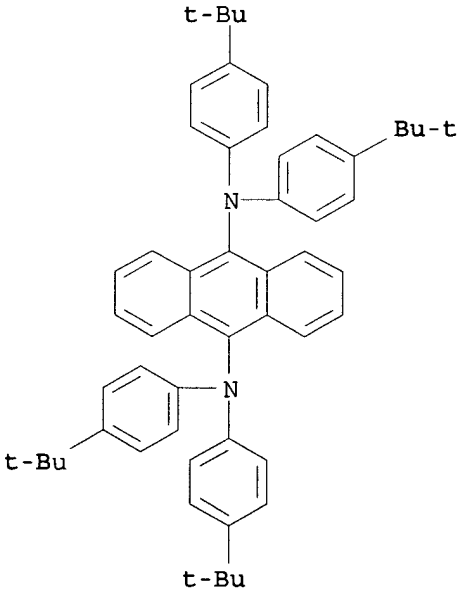
RN 756899-58-8 HCAPLUS
CN 9,10-Anthracenediamine, N-(9,9-diethyl-9H-fluoren-2-yl)-N'-(9,9-diethyl-9H-fluoren-3-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



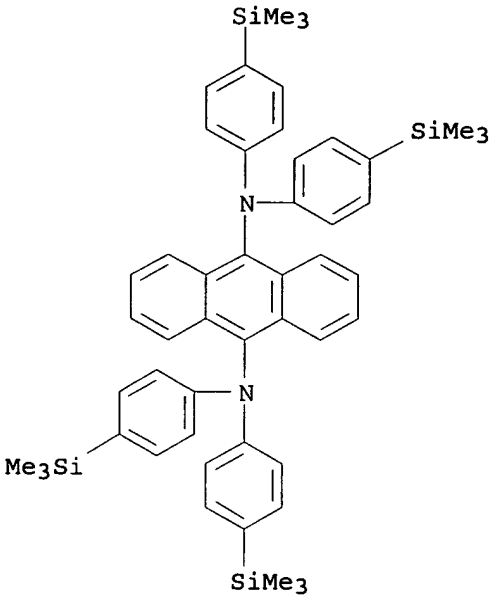
RN 756899-59-9 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-bis(3-methylphenyl)- (9CI) (CA INDEX NAME)



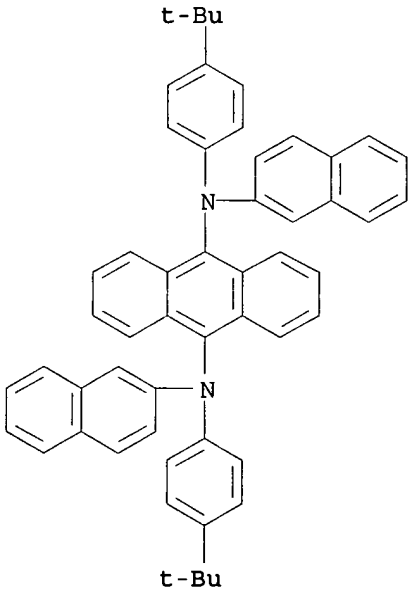
RN 756899-60-2 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetrakis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



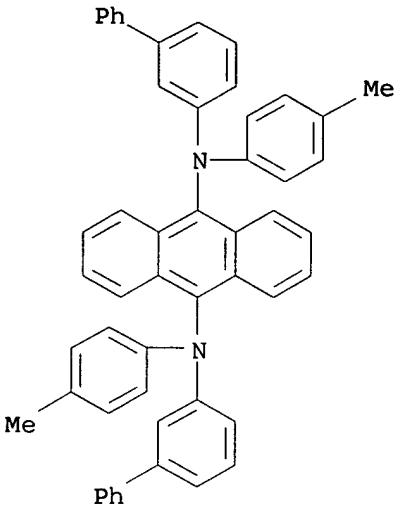
RN 756899-61-3 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetrakis[4-(trimethylsilyl)phenyl]- (9CI) (CA INDEX NAME)



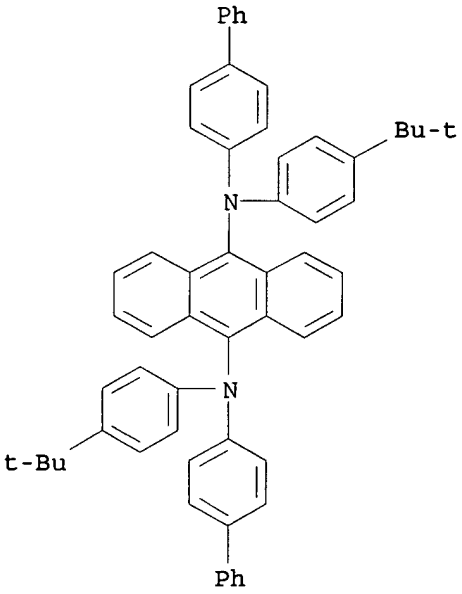
RN 756899-64-6 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-di-2-naphthalenyl- (9CI) (CA INDEX NAME)



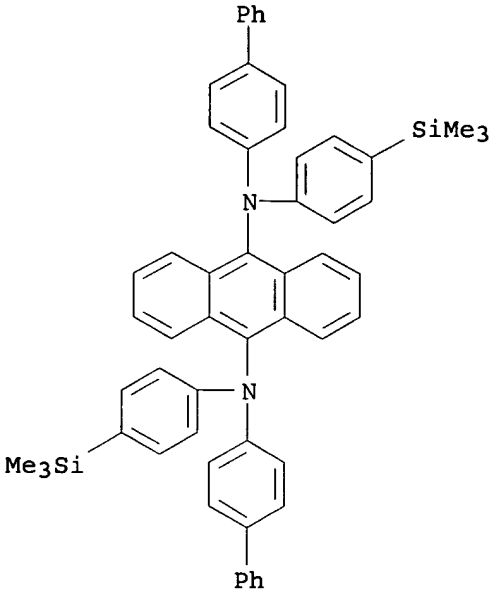
RN 756899-68-0 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis([1,1'-biphenyl]-3-yl)-N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



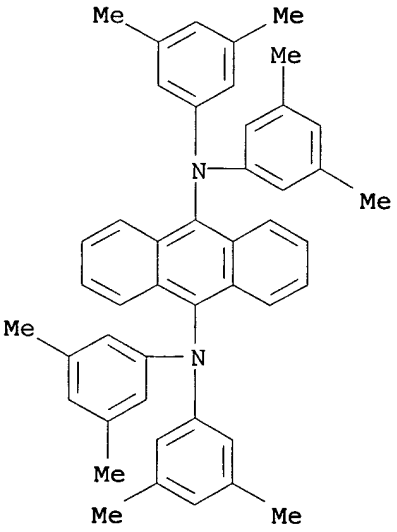
RN 756899-69-1 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis([1,1'-biphenyl])-4-yl-N,N'-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



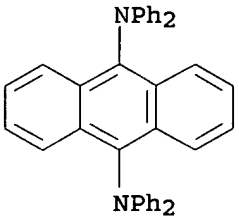
RN 756899-70-4 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis([1,1'-biphenyl]-4-yl)-N,N'-bis[4-(trimethylsilyl)phenyl]- (9CI) (CA INDEX NAME)



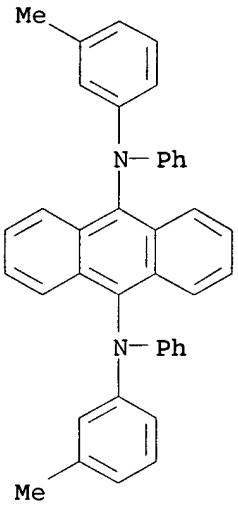
RN 756899-71-5 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetrakis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)



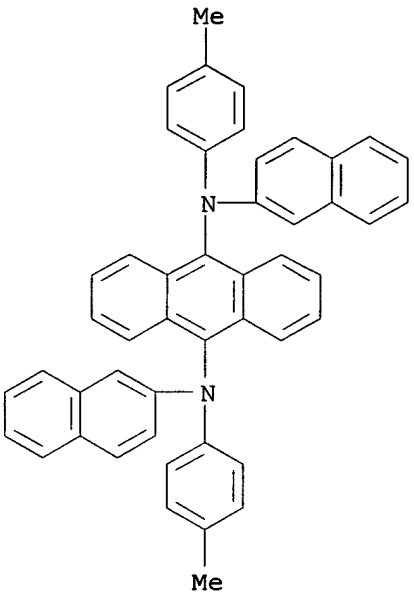
IT **177799-11-0P 189263-81-8P 756899-65-7P**
(organic electroluminescent device employing derivative of 9,10-diaminoanthracene as green **luminescent** dopant)
RN 177799-11-0 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



RN 189263-81-8 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis(3-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



RN 756899-65-7 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis(4-methylphenyl)-N,N'-di-2-naphthalenyl- (9CI) (CA INDEX NAME)



IC ICM C09K
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 76
IT **177799-14-3 177799-16-5 189263-82-9**
190974-21-1 473717-08-7 756899-41-9
756899-42-0 756899-43-1 756899-44-2
756899-45-3 756899-46-4 756899-47-5
756899-48-6 756899-49-7 756899-50-0
756899-51-1 756899-52-2 756899-53-3 **756899-54-4**
756899-55-5 756899-56-6 756899-57-7
756899-58-8 756899-59-9 756899-60-2
756899-61-3 756899-62-4 756899-63-5
756899-64-6 756899-66-8 756899-67-9
756899-68-0 756899-69-1 756899-70-4
756899-71-5 756899-72-6 756899-73-7 756899-74-8
756899-75-9 756899-76-0
(organic electroluminescent device employing derivative of 9,10-diaminoanthracene as green **luminescent** dopant)
IT **177799-11-0P 189263-81-8P 756899-65-7P**
(organic electroluminescent device employing derivative of 9,10-diaminoanthracene as green **luminescent** dopant)

L35 ANSWER 14 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:569714 HCAPLUS
DOCUMENT NUMBER: 141:130989
TITLE: Light emitting materials based on indole skeleton
INVENTOR(S): Lin, Tung-Shen
PATENT ASSIGNEE(S): Lightronik Technology, Inc., Taiwan
SOURCE: U.S. Pat. Appl. Publ., 30 pp.
CODEN: USXXCO
DOCUMENT TYPE: **Patent**
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004137262	A1	20040715	US 2003-341426	2003 0114 <--
US 6815093	B2	20041109		
PRIORITY APPLN. INFO.:			US 2003-341426	2003 0114 <--

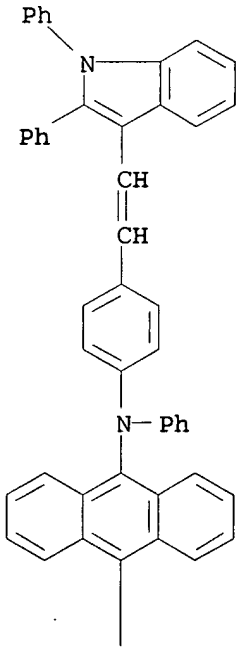
AB The present invention is related to an indole-based compound represented by Formula (I) disclosed in the application useful in forming a light emitting material for an organic electroluminescent device. One of the aspects of the invention is directed to an organic electroluminescent device having a multi-layered structure comprising a cathode, an anode and at least one organic layer, wherein said at least one organic layer comprises the indole-based compound The indole-based compound contains two light-emitting units, each having an indole-based structure, linked with a connecting unit, which is an arylamine. The color of the light emitted by the light emitting material can be adjusted by changing the connecting unit.

IT **722475-20-9 722475-27-6**
(preparation of **light emitting** materials based on indole skeleton)

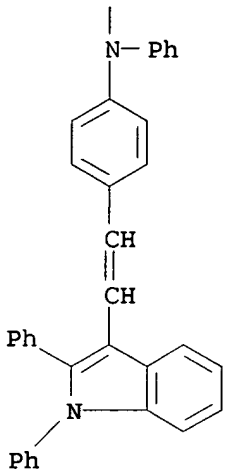
RN 722475-20-9 HCAPLUS

CN 9,10-Anthracenediamine, N,N'-bis[4-[2-(1,2-diphenyl-1H-indol-3-yl)ethenyl]phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

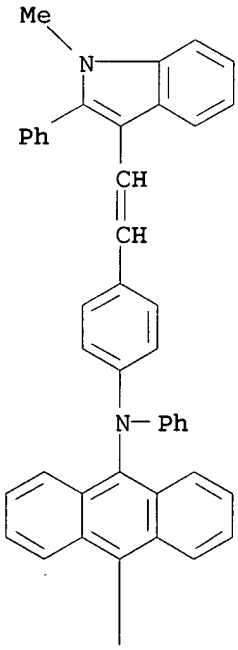


PAGE 2-A

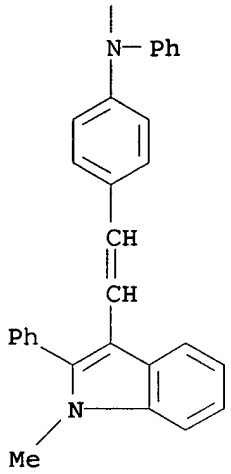


RN 722475-27-6 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-bis[4-[2-(1-methyl-2-phenyl-1H-indol-3-yl)ethenyl]phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM H05B033-14
ICS C09K011-06; C07D209-04
INCL 428690000; 428917000; 313504000; 313506000; 252301160; 548469000; 564427000; 564428000; 564434000
CC 73-5 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
IT 722475-19-6 **722475-20-9** 722475-21-0 722475-23-2 722475-25-4 722475-26-5 **722475-27-6**
(preparation of **light emitting** materials based on indole skeleton)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

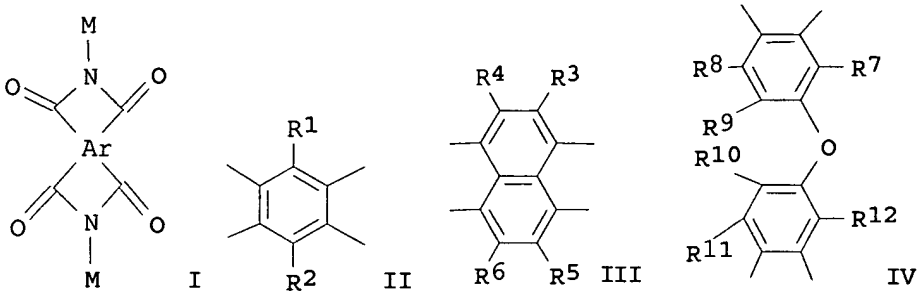
L35 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:409927 HCAPLUS
DOCUMENT NUMBER: 140:431125
TITLE: Bisimide derivatives bearing bisarylamino groups, their preparation, and hole-transporting materials, green-emitting phosphors, and organic electroluminescent device
INVENTOR(S): Fukuoka, Naohiko; Tagami, Sanae; Fujiwara, Toru; Shionoya, Hidehiko
PATENT ASSIGNEE(S): Chemipro Kasei Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004143044	A2	20040520	JP 2002-306249	2002 1021

<--

PRIORITY APPLN. INFO.: JP 2002-306249
2002
1021
<--

OTHER SOURCE(S): MARPAT 140:431125
GI

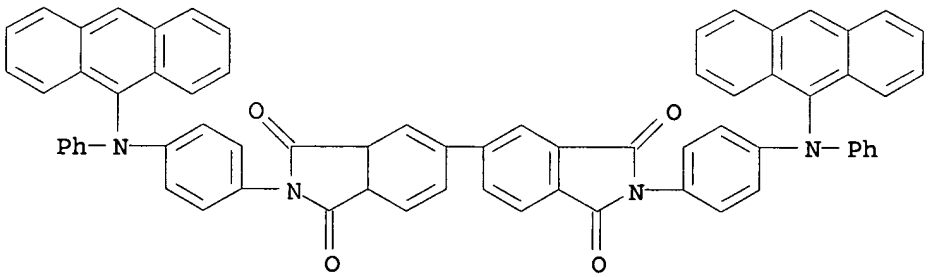


AB The bisimide derivs. represented by the general formula I [Ar = II, III, IV; Q = single bond, ether, carbonyl, sulfone, thioether, alkylidene, 4,4'-alkylidenediphenoxy, 4,4'-alkylidenediphenoxycarbonyl; R1-R12 = H, linear or cyclic alkyl, linear or cyclic alkoxy, (un)substituted aryl, halo; M = Ar1NAr2Ar3; Ar1 = (un)substituted arylene; Ar2, Ar3 = (un)substituted aryl; Ar2 and Ar3 may form N-containing heterocyclic ring together with the bonding N] are prepared by reacting bisacid anhydrides I with amines MNH2 (Ar, M = same as above). The bisimide derivs. are amorphous, heat-resistant, and capable of film formation by solvent coating.

IT **691883-41-7P**
(preparation of bisimide derivs. bearing bisarylamino groups for hole-transporting materials, green-emitting phosphor, and organic **EL** device)

RN 691883-41-7 HCAPLUS

CN [5,5'-Bi-1H-isoindole]-1,1',3,3'(2H,2'H)-tetrone, 2,2'-bis[4-(9-anthracenylphenylamino)phenyl]-3a,7a-dihydro- (9CI) (CA INDEX NAME)



IC ICM C07D209-48
ICS C07D487-04; C09K011-06; H05B033-14; H05B033-22

CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 27
IT 691883-38-2P 691883-40-6P **691883-41-7P** 691883-42-8P
691883-43-9P 691883-44-0P 691883-45-1P 691883-46-2P
691883-47-3P 691883-48-4P 691883-49-5P 691883-50-8P
691883-51-9P
(preparation of bisimide derivs. bearing bisarylamino groups for hole-transporting materials, green-emitting phosphor, and organic **EL** device)

L35 ANSWER 16 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:203783 HCAPLUS
DOCUMENT NUMBER: 140:261171
TITLE: Condensed polycyclic compounds and organic light-emitting device using the same
INVENTOR(S): Suzuki, Koichi; Kawai, Tatsundo; Senoo, Akihiro; Yamada, Naoki; Saito, Akihito; Okajima, Maki
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 77 pp.
CODEN: PIXXD2
DOCUMENT TYPE: **Patent**
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004020371	A1	20040311	WO 2003-JP10783	2003 0826
			<--	
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004107326	A2	20040408	JP 2003-291191	2003 0811
			<--	
AU 2003256085	A1	20040319	AU 2003-256085	2003 0826
			<--	
US 2005236974	A1	20051027	US 2005-522947	2005 0202
			<--	
PRIORITY APPLN. INFO.:			JP 2002-246600 A	2002 0827
			<--	

JP 2003-291191 A 2003 0811
<--
WO 2003-JP10783 W 2003 0826
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OTHER SOURCE(S): MARPAT 140:261171
GI

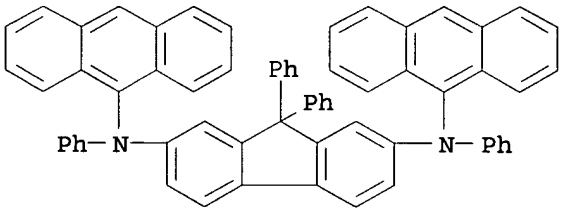
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention is directed to the preparation of condensed polycyclic compds. I as (component) of organic light-emitting devices that are extremely efficient in a light output with high luminance and is extremely durable [R1 = H, halo, cyano, substituted amino or (un)substituted alkyl, aralkyl, aryl; Ar1 to Ar5 = independently (un)substituted condensed polycyclic aromatic group or condensed polycyclic heterocyclic group]. For example, Suzuki cross-coupling of hexabromobenzene with 9,9-dimethylfluorene-2-boronic acid gave 42% II and 17% all substituted 9,9-dimethylfluorenyl II. A device fabricated using II in the active layer exhibited blue emission with a luminance of 2800 cd/m2 at a c.d. of 10 mA/cm2.

IT **522653-17-4**
(preparation of condensed polycyclic compds. and their use to the manufacture of organic **light-emitting** devices)

RN 522653-17-4 HCAPLUS

CN 9H-Fluorene-2,7-diamine, N,N'-di-9-anthracenyl-N,N',9,9-tetraphenyl- (9CI) (CA INDEX NAME)



IC ICM C07C013-567
ICS C07C013-66; C07C015-24; C07C015-28; C07C015-30; C07C015-38; C07C025-22; C07C211-58; C07C255-52; C07D401-14; C07D471-04; C09K011-06; H05B033-14; H05B033-22

CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 76

IT 94928-86-6 143886-09-3 203459-05-6 228871-85-0 239475-91-3
522653-17-4 669016-10-8 669016-14-2 669016-15-3
669016-18-6 669016-19-7 669016-20-0 669016-22-2
669016-23-3 669016-26-6 669016-28-8 669016-29-9
669016-30-2 669077-94-5 669773-71-1 669773-72-2
(preparation of condensed polycyclic compds. and their use to the

manufacture of organic **light-emitting** devices)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 17 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:777744 HCAPLUS
DOCUMENT NUMBER: 139:299013
TITLE: Oligofluorenylene compounds
INVENTOR(S): Saitoh, Akihito; Hiraoka, Mizuho; Suzuki, Koichi; Senoo, Akihiro; Tanabe, Hiroshi; Yamada, Naoki; Negishi, Chika; Kasahara, Maki
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 62 pp.
CODEN: PIXXD2
DOCUMENT TYPE: **Patent**
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003080559	A1	20031002	WO 2003-JP3615	2003 0325
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004002298	A2	20040108	JP 2003-6796	2003 0115
			<--	
AU 2003221098	A1	20031008	AU 2003-221098	2003 0325
			<--	
EP 1487779	A1	20041222	EP 2003-712917	2003 0325
			<--	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1568303	A	20050119	CN 2003-801298	2003 0325
			<--	
US 2005106414	A1	20050519	US 2003-506300	2003

0325
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PRIORITY APPLN. INFO.: JP 2002-88918 A
2002
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JP 2003-6796 A
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WO 2003-JP3615 W
2003
0325
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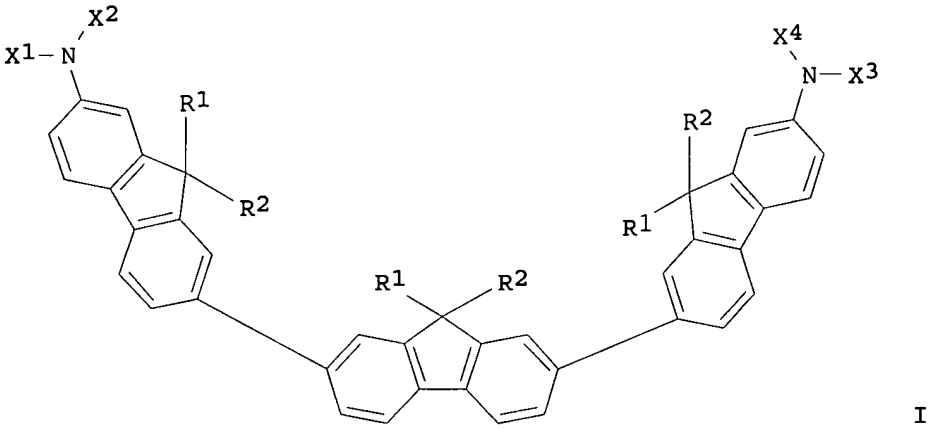
OTHER SOURCE(S): MARPAT 139:299013
GI

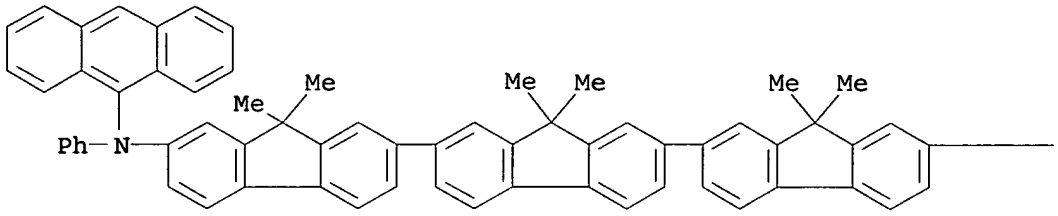


I

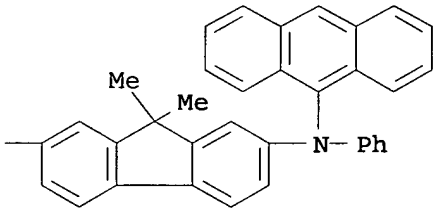
AB An oligofluorenylene compound for organic LED is described comprising a unit according to I (wherein X1 to X4 are each (un)substituted alkyl group, aralkyl group, aryl group, and heterocyclic group, a (un)substituted alkenyl group, alkynyl group, amino group, alkoxy group, and sulfide group which have a connecting group comprising a (un)substituted arylene group or divalent heterocyclic group, and a substituted silyl group and carbonyl group which have a connecting group comprising a (un)substituted arylene group or divalent heterocyclic group, which may be the same or different, and X1 and X2, and X3 and X4 may be linked to each other to form a ring, wherein R1 and R2 are each consisting of a hydrogen atom and a (un)substituted alkyl group, aralkyl group, and aryl group, R1 and R2 may be the same or different, and resp. R1 and R2 on different fluorenylene rings may be the same or different, and wherein n is an integer of 1 to 20). An organic light-emitting device comprising the organic compound is also described.
IT **607739-68-4P**
(oligofluorenylene compds. for organic **light-emitting** devices)
RN 607739-68-4 HCAPLUS
CN [2,2':7',2'':7'',2'''-Quater-9H-fluorene]-7,7'''-diamine, N,N'-di-9-anthracenyl-9,9,9',9',9'',9'',9''',9'''-octamethyl-N,N'-

diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

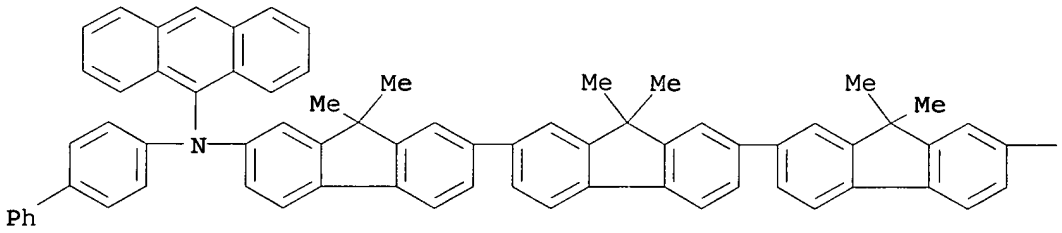


PAGE 1-B

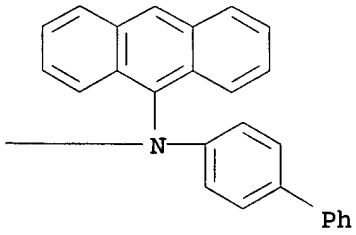


IT **607739-78-6**
(organic fluorescent material; oligofluorenylene compds. for organic **light-emitting** devices)
RN 607739-78-6 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluorene]-7,7''-diamine, N,N'-di-9-anthracenyl-N,N'-bis([1,1'-biphenyl]-4-yl)-9,9,9',9',9'',9''-hexamethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

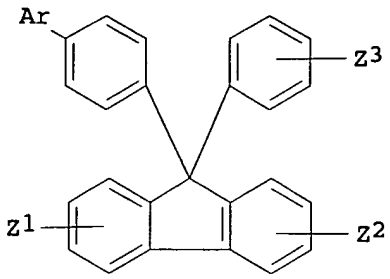


IC ICM C07C211-61
ICS H01L051-30
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 76
IT **607739-68-4P**
(oligofluorenylene compds. for organic **light-emitting** devices)
IT 607739-69-5 607739-70-8 607739-71-9 607739-72-0
607739-73-1 607739-74-2 607739-75-3 607739-76-4
607739-77-5 **607739-78-6** 607739-79-7 607739-80-0
607739-81-1 607739-82-2 607739-83-3 607739-84-4
608130-98-9
(organic fluorescent material; oligofluorenylene compds. for organic **light-emitting** devices)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 18 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:723685 HCAPLUS
DOCUMENT NUMBER: 139:252299
TITLE: Diphenylfluorene derivatives and organic electroluminescence devices using them with high luminescence efficiency
INVENTOR(S): Ishida, Tsutomu; Shimamura, Takehiko; Tanabe, Yoshimitsu; Totani, Yoshiyuki; Nakatsuka, Masakatsu
PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 40 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003261472	A2	20030916	JP 2002-62101 <--	20020307

PRIORITY APPLN. INFO.: JP 2002-62101 <-- 20020307
OTHER SOURCE(S): MARPAT 139:252299
GI



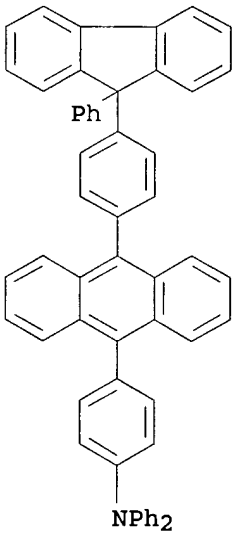
I

AB The electroluminescence devices contain the diphenylfluorene derivs. I (Ar = anthryl; Z1-3 = H, halo, alkyl, alkoxy, aryl, aralkyl) between a pair of electrodes. The electroluminescence devices may further contain luminescent organic metal complexes and triarylamines.

IT **597554-08-0P 597554-09-1P 597554-12-6P 597554-13-7P 597554-14-8P 597554-19-3P 597554-20-6P 597554-22-8P 597554-23-9P**
(anthrylphenylphenylfluorene derivs. for organic **EL** devices with high **luminescence** efficiency)

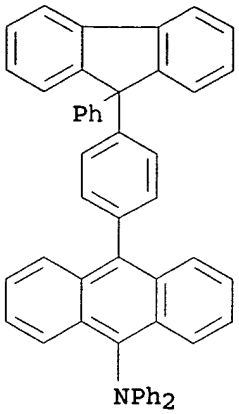
RN 597554-08-0 HCAPLUS

CN Benzenamine, N,N-diphenyl-4-[10-[4-(9-phenyl-9H-fluoren-9-yl)phenyl]-9-anthracenyl]- (9CI) (CA INDEX NAME)



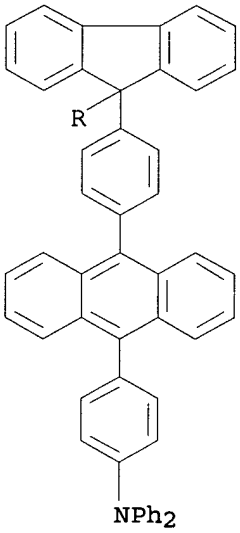
RN 597554-09-1 HCAPLUS

CN 9-Anthracenamine, N,N-diphenyl-10-[4-(9-phenyl-9H-fluoren-9-yl)phenyl]- (9CI) (CA INDEX NAME)

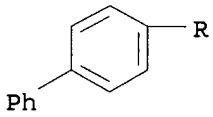


RN 597554-12-6 HCAPLUS
CN Benzenamine, 4-[10-[4-(9-[1,1'-biphenyl]-4-yl-9H-fluoren-9-yl)phenyl]-9-anthracenyl]-N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

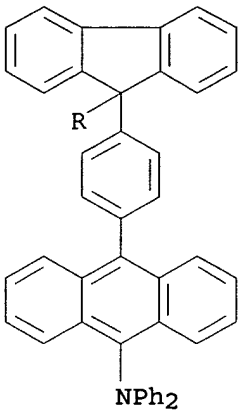


PAGE 2-A



RN 597554-13-7 HCAPLUS
CN 9-Anthracenamine, 10-[4-[9-[4'-(diphenylamino)[1,1'-biphenyl]-4-yl]-9H-fluoren-9-yl]phenyl]-N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



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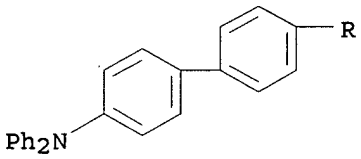
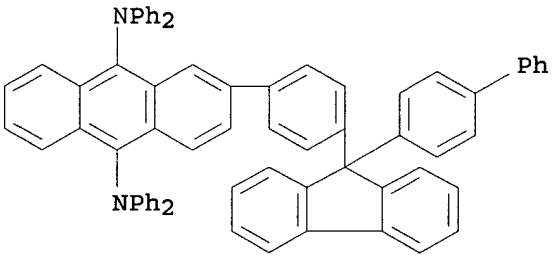
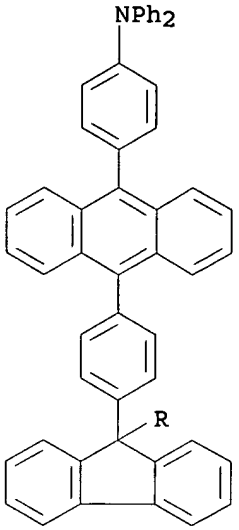


RN 597554-14-8 HCAPLUS
CN 9,10-Anthracenediamine, 2-[4-(9-[1,1'-biphenyl]-4-yl-9H-fluoren-9-yl)phenyl]-N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)

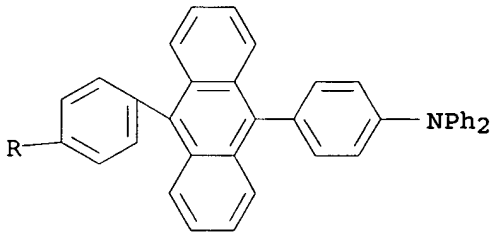


RN 597554-19-3 HCAPLUS
CN Benzenamine, 4,4'-[9H-fluoren-9-ylidenebis(4,1-phenylene-10,9-anthracenediyl)]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

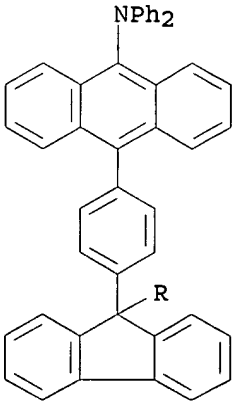


PAGE 2-A



RN 597554-20-6 HCAPLUS
CN 9-Anthracenamine, 10,10'-(9H-fluoren-9-ylidenedi-4,1-phenylene)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



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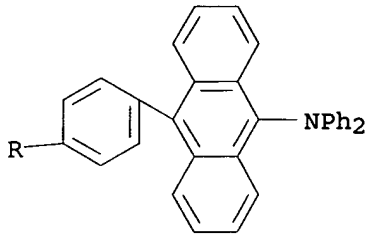
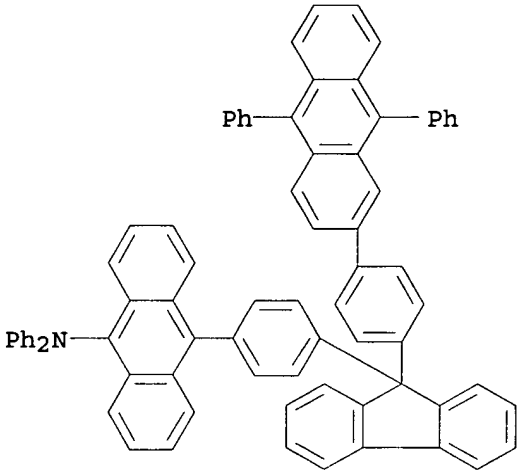
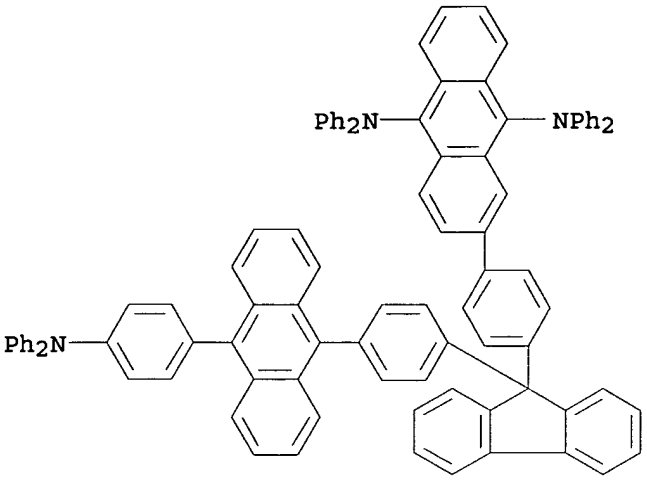


RN 597554-22-8 HCAPLUS
CN 9-Anthracenamine, 10-[4-[9-[4-(9,10-diphenyl-2-anthracenyl)phenyl]-9H-fluoren-9-yl]phenyl]-N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 597554-23-9 HCAPLUS
CN 9,10-Anthracenediamine, 2-[4-[9-[4-[10-[4-(diphenylamino)phenyl]-9-anthracenyl]phenyl]-9H-fluoren-9-yl]phenyl]-N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



IC ICM C07C013-573
ICS C07C211-54; C07C211-61; C09K011-06; H05B033-14; H05B033-22
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
IT 460347-61-9P 597554-04-6P 597554-05-7P 597554-06-8P
597554-07-9P **597554-08-0P 597554-09-1P**
597554-10-4P 597554-11-5P **597554-12-6P**
597554-13-7P 597554-14-8P 597554-15-9P
597554-16-0P 597554-17-1P 597554-18-2P **597554-19-3P**
597554-20-6P 597554-21-7P **597554-22-8P**
597554-23-9P
(anthrylphenylphenylfluorene derivs. for organic **EL** devices with high **luminescence** efficiency)

L35 ANSWER 19 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:673843 HCAPLUS
DOCUMENT NUMBER: 139:221355
TITLE: Diaminonaphthalene compounds and their organic electroluminescent devices having long luminescence life and durability
INVENTOR(S): Totani, Yoshiyuki; Shimamura, Takehiko; Ishida, Tsutomu; Tanabe, Yoshimitsu; Nakatsuka, Masakatsu
PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003238502	A2	20030827	JP 2002-36418	2002 0214

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PRIORITY APPLN. INFO.: JP 2002-36418 2002

0214

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OTHER SOURCE(S): MARPAT 139:221355

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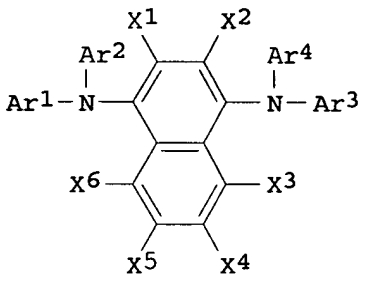


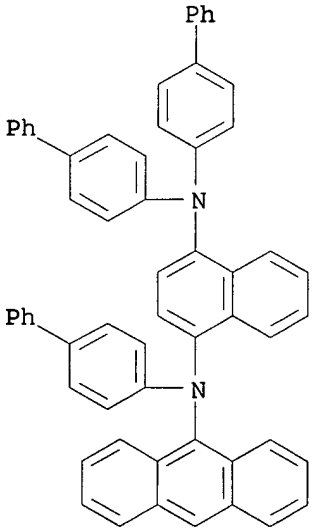
I

AB The diaminonaphthalene compds. are represented by general formula of I [Ar1-Ar4 = (un)substituted aryl, ≥1 of Ar1-Ar4 = condensed aromatic hydrocarbyl; X1-X6 = H, OnZ; Z = (halogen-substituted) alkyl, aryl; n = 0, 1]. The organic EL device has ≥1 layers containing I, maybe in a hole injection-transporting layer or a luminescent layer.

IT **586414-40-6P 586414-42-8P 586414-43-9P**
(diaminonaphthalene compds. for hole injection-transporting layers or **luminescent** layers of **organic EL** devices having long **luminescence** life and durability)

RN 586414-40-6 HCAPLUS

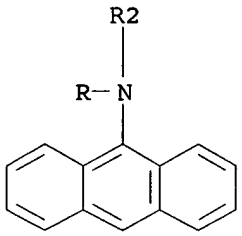
CN 1,4-Naphthalenediamine, N-9-anthracenyl-N,N',N'-tris([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)

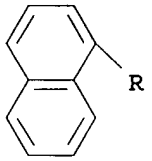


RN 586414-42-8 HCAPLUS

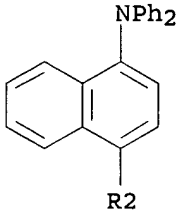
CN 1,4-Naphthalenediamine, N-9-anthracenyl-N-1-naphthalenyl-N',N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

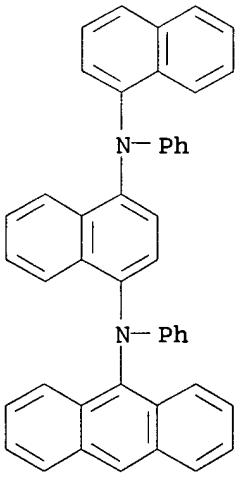




PAGE 2-A



RN 586414-43-9 HCAPLUS
CN 1,4-Naphthalenediamine, N-9-anthracenyl-N'-1-naphthalenyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)

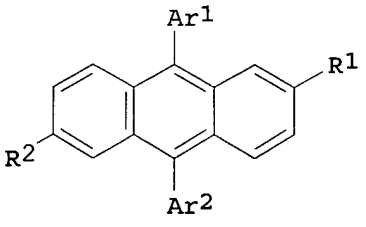


IC ICM C07C211-57
ICS C07C211-61; C09K011-06; H05B033-14; H05B033-22
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25
IT 244280-93-1P 244280-97-5P **586414-40-6P** 586414-41-7P **586414-42-8P 586414-43-9P** 586414-44-0P 586414-45-1P 586414-46-2P
(diaminonaphthalene compds. for hole injection-transporting layers or **luminescent** layers of **organic** **EL** devices having long **luminescence** life and durability)

L35 ANSWER 20 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:389972 HCAPLUS
DOCUMENT NUMBER: 138:409100
TITLE: Heat-resistant anthracene derivatives, their preparation, and organic electroluminescent devices therewith
INVENTOR(S): Ichinosawa, Akiko; Sato, Yoshiharu; Ogata, Tomoyuki
PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 72 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003146951	A2	20030521	JP 2002-224576 <--	20020801
PRIORITY APPLN. INFO.:			JP 2001-238013 A <--	20010806

OTHER SOURCE(S): MARPAT 138:409100
GI



I

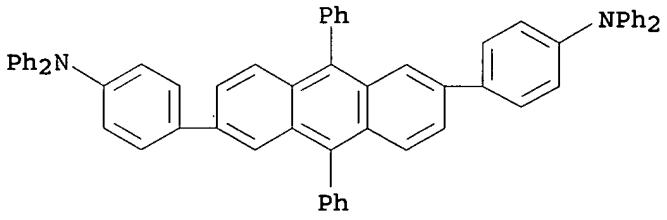
AB Low-threshold and heat-resistant organic LED of high luminescent efficiency, containing anthracene derivs. I [Ar1, Ar2 = 5- or 6-membered aromatic (hetero)cycle of degree of ring condensation 2-5; R1, R2 = tertiary amino, 5- or 6-membered aromatic (hetero)cycle of degree of ring condensation 2-5, excluding the case when both R1

and R2 are tertiary amino] are claimed. The I are prepared by introduction of R1 and R2 to corresponding halo-substituted anthracene derivs. upon reaction with Ar3BR3R4 and Ar4BR5R6 [Ar3, Ar4 = 5- or 6-membered aromatic (hetero)cycle of degree of ring condensation 2-5; R3-R6 = OH, alkoxy].

IT **528609-94-1P 528609-95-2P 528609-96-3P 528609-97-4P**
(heat-resistant anthracene derivs. with high **luminescent** efficiency and low-threshold organic **LED** therewith)

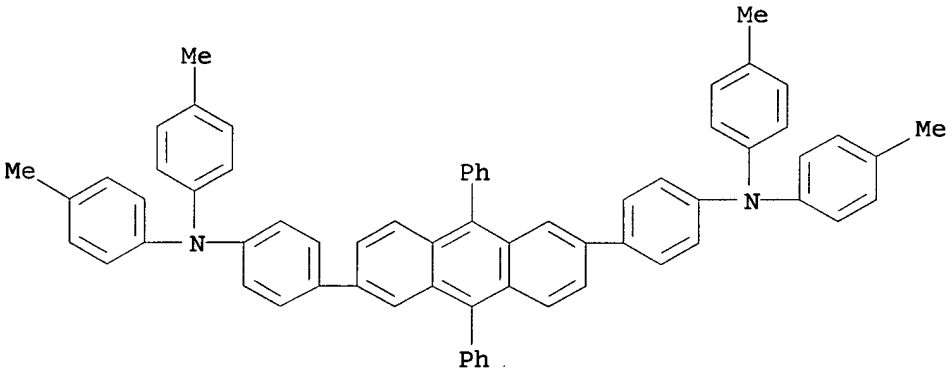
RN 528609-94-1 HCAPLUS

CN Benzenamine, 4,4'-(9,10-diphenyl-2,6-anthracenediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



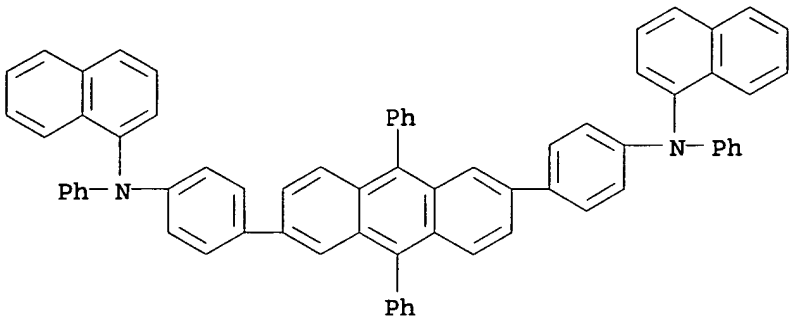
RN 528609-95-2 HCAPLUS

CN Benzenamine, 4,4'-(9,10-diphenyl-2,6-anthracenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

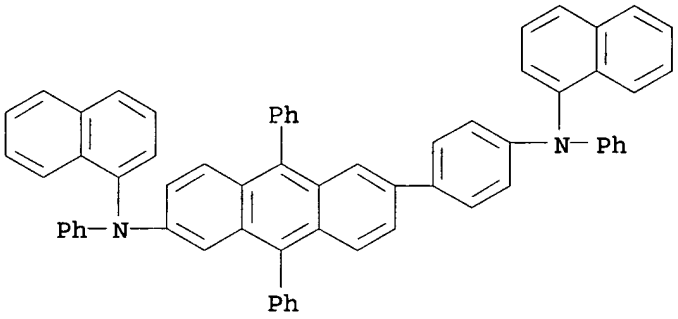


RN 528609-96-3 HCAPLUS

CN 1-Naphthalenamine, N,N'-[(9,10-diphenyl-2,6-anthracenediyl)di-4,1-phenylene]bis[N-phenyl- (9CI) (CA INDEX NAME)



RN 528609-97-4 HCAPLUS
CN 2-Anthracenamine, N-1-naphthalenyl-6-[4-(1-naphthalenylphenylamino)phenyl]-N,9,10-triphenyl- (9CI) (CA INDEX NAME)



IC ICM C07C211-61
ICS C07D209-86; C07D213-06; C07D215-30; C07D265-38; C07D333-10; C07D401-14; C07D409-14; C07D413-14; C07D471-04; C09K011-06; H05B033-14; H05B033-22
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25
IT **528609-94-1P 528609-95-2P 528609-96-3P 528609-97-4P**
(heat-resistant anthracene derivs. with high **luminescent** efficiency and low-threshold organic **LED** therewith)

L35 ANSWER 21 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:381297 HCAPLUS
DOCUMENT NUMBER: 138:345750
TITLE: Conjugated polymers containing arylamine for light-emitting diodes
AUTHOR(S): Shi, Jianmin; Zheng, Shiying
CORPORATE SOURCE: Eastman Kodak Co., Rochester, NY, 14650, USA
SOURCE: Polymeric Materials Science and Engineering (2001), 84, 473-474
CODEN: PMSEDG; ISSN: 0743-0515
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors report the synthesis and characterization of 5

polymers (P1-P5) with arylamine pendants. Various aromatic groups, were incorporated into polymers to fine tune the optoelectronic properties and long side chains were introduced to increase solubility 9,10-Diphenylanthracene is a highly fluorescent and efficient chromophore and was incorporated into P2. Strong electron withdrawing groups such as CN increase the electron affinity of PPV polymers and facilitate electron injection, so P3 was designed based on this approach. The synthesis of the polymers, their absorption and photoluminescence in solution were reported. Single-layer ITO/polymer/Mg:Ag devices were fabricated from spin-coated polymer thin films and characterized.

IT **380498-80-6P**
(synthesis, absorption and photoluminescence properties of conjugated polymers containing arylamine for **light-emitting** diodes)

RN 380498-80-6 HCAPLUS

CN Poly[[2,6-bis(octyloxy)-9,10-anthracenediyl]-1,4-phenylene-1,2-ethenediyl[2,5-bis(diphenylamino)-1,4-phenylene]-1,2-ethenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT
*

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT
*

CC 73-5 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 36, 37, 76

IT 369370-71-8P 369370-72-9P 369385-54-6P 369385-63-7P
380498-80-6P
(synthesis, absorption and photoluminescence properties of conjugated polymers containing arylamine for **light-emitting** diodes)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 22 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:56356 HCAPLUS
DOCUMENT NUMBER: 138:98068
TITLE: Electroluminescent styryl compounds and yellow-to-red-emitting electroluminescent devices therefrom
INVENTOR(S): Tamano, Michiko; Yauchi, Hiroyuki
PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003020477 A2 20030124 JP 2001-207189
2001
0709
<--

PRIORITY APPLN. INFO.: JP 2001-207189
2001
0709
<--

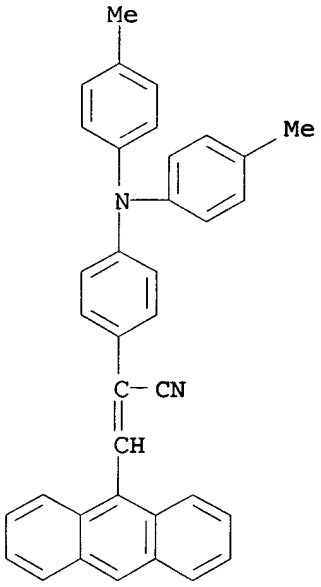
OTHER SOURCE(S): MARPAT 138:98068

AB Styryl compds. R1R2NAr2(CR3:CR4)mCR5:CR6(CR7:CR8)nAr1 [Ar1 = monovalent cyclic residue; Ar2 = bivalent cyclic residue; R1-R8 = H, cyano, alkyl, aryl (R5 and/or R6 is cyano); n, m = 0-10] and LED (electroluminescent devices) having layers of the compds. are claimed. The devices exhibit long life and high luminance.

IT **483981-25-5P 483981-29-9P**
(emission layers; electroluminescent styryl compds. for yellow-to-red-emitting **LED** with long life and high **luminance**)

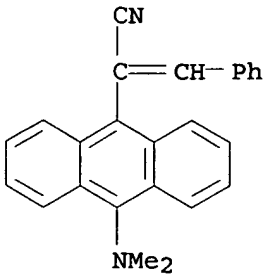
RN 483981-25-5 HCAPLUS

CN Benzeneacetonitrile, α-(9-anthracenylmethylene)-4-[bis(4-methylphenyl)amino]- (9CI) (CA INDEX NAME)



RN 483981-29-9 HCAPLUS

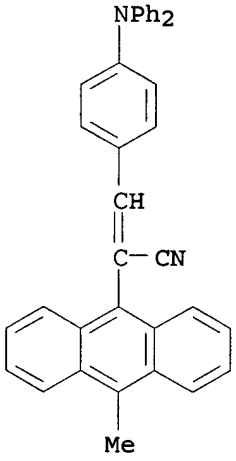
CN 9-Anthraceneacetonitrile, 10-(dimethylamino)-α-(phenylmethylene)- (9CI) (CA INDEX NAME)



IT **483981-22-2 483981-24-4 483981-27-7**
(emission layers; electroluminescent styryl compds. for yellow-to-red-emitting **LED** with long life and high **luminance**)

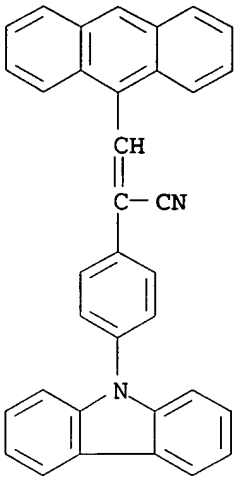
RN 483981-22-2 HCAPLUS

CN 9-Anthraceneacetonitrile, α-[[4-(diphenylamino)phenyl]methylene]-10-methyl- (9CI) (CA INDEX NAME)

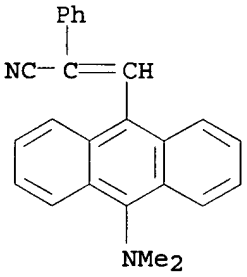


RN 483981-24-4 HCAPLUS

CN Benzeneacetonitrile, α-(9-anthracenylmethylene)-4-(9H-carbazol-9-yl)- (9CI) (CA INDEX NAME)



RN 483981-27-7 HCAPLUS
CN Benzeneacetonitrile, α-[[10-(dimethylamino)-9-anthracenyl]methylene]- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS C09K011-06; C07C255-42; C07D265-38; C07D307-54; C07D333-60; C07D471-04; H05B033-14; C07D209-86; C07D333-24
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 74
IT 21994-54-7P 483981-23-3P **483981-25-5P** 483981-26-6P **483981-29-9P**
(emission layers; electroluminescent styryl compds. for yellow-to-red-emitting **LED** with long life and high **luminance**)
IT 483981-20-0 483981-21-1 **483981-22-2** **483981-24-4** **483981-27-7** 483981-28-8 483981-30-2 483981-31-3 483981-32-4 483981-33-5 483981-34-6 483981-35-7 483981-36-8 483981-37-9
(emission layers; electroluminescent styryl compds. for yellow-to-red-emitting **LED** with long life and high **luminance**)

L35 ANSWER 23 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:867325 HCAPLUS
DOCUMENT NUMBER: 137:377245
TITLE: Organic electroluminescent device containing

aromatic condensed ring compound
INVENTOR(S): Suzuki, Koichi; Senoo, Akihiro; Tanabe, Hiroshi
PATENT ASSIGNEE(S): Canon Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 50 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002329580	A2	20021115	JP 2002-36804 <--	20020214
US 2002177009	A1	20021128	US 2002-77800 <--	20020220
US 6830829	B2	20041214		
US 2005048318	A1	20050303	US 2004-940734 <--	20040915
US 6994922	B2	20060207		

PRIORITY APPLN. INFO.:
JP 2001-46225 A 20010222 <--
JP 2002-36804 A 20020214 <--
US 2002-77800 A3 20020220 <--

OTHER SOURCE(S): MARPAT 137:377245

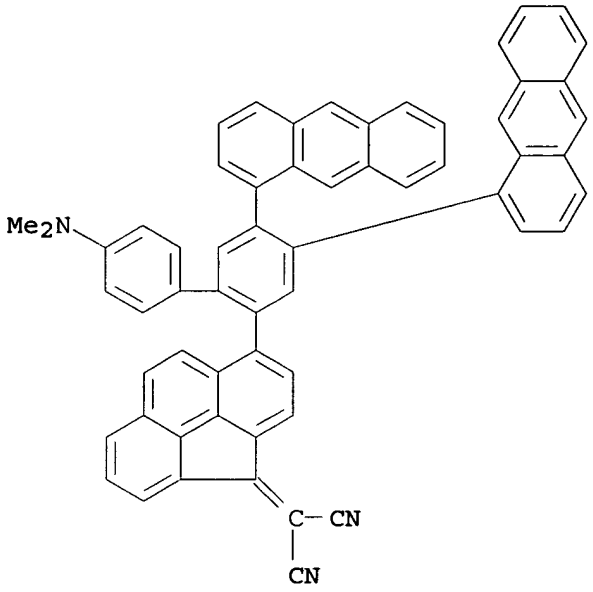
AB The electroluminescent device has ≥1 organic layer containing aromatic condensed ring compound a benzene subsitituted with R1-4 and Ar1-2 (I), a benzene substituted with R5-7 and Ar3-5 (II), or a benzene substituted with R8-9 and Ar6-9 (III) [R1-R9 = H, alkyl, (substituted)aralkyl, (substituted)aryl, (substituted)heterocycle, (substituted)amino, cyano; Ar1-Ar9 = (substituted)aromatic condensed ring, (substituted)condensed heterocycle, optionally linked via phenylene], preferably claimed compds. II (R5-R7 = H, Ar3-Ar5 = LH at 1,3,5-positions, L = 9,9-dimethylfluorene-2,7-diyl), II (R5-R7 = H, Ar3-Ar5 = L2H at 1,3,5-positions), III (R8 = R9 = H, Ar6-Ar9 = LH at 1,2,4,5-positions), or III (R8 = R9 = H, Ar6-Ar9 = L2H at 1,2,4,5-positions), as electron-transporting or light-emitting layers between a cathode and an anode. The organic layer in the device is useful as an electron-transporting layer, an emitting layer, and a hole/exciton-blocking layer and the device shows high emission, low driving voltage, and improved durability.

IT **475460-97-0 475461-10-0 475461-17-7**
(organic electroluminescent device containing aromatic condensed ring compound as electron-transporting or **light**-

emitting or hole/exciton-blocking layer)

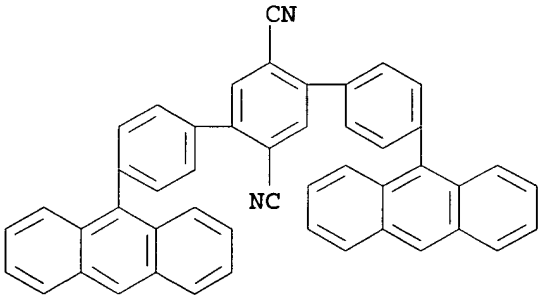
RN 475460-97-0 HCAPLUS

CN Propanedinitrile, [1-[4,5-di-1-anthracenyl-4'-(dimethylamino)[1,1'-biphenyl]-2-yl]-4H-cyclopenta[def]phenanthren-4-ylidene]- (9CI) (CA INDEX NAME)



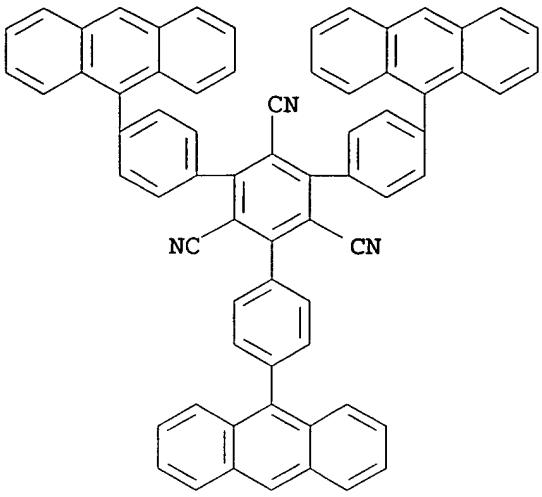
RN 475461-10-0 HCAPLUS

CN [1,1':4',1''-Terphenyl]-2',5'-dicarbonitrile, 4,4''-di-9-anthracenyl- (9CI) (CA INDEX NAME)



RN 475461-17-7 HCAPLUS

CN [1,1':3',1''-Terphenyl]-2',4',6'-tricarbonitrile, 4,4''-di-9-anthracenyl-5'-[4-(9-anthracenyl)phenyl]- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C07C013-547; C09K011-06; H05B033-22
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25
IT 111228-18-3 151965-47-8 349666-25-7 349666-25-7
349666-26-8 475460-76-5 475460-77-6 475460-78-7
475460-79-8 475460-80-1 475460-81-2 475460-82-3
475460-84-5 475460-85-6 475460-86-7 475460-87-8
475460-88-9 475460-89-0 475460-90-3 475460-91-4
475460-92-5 475460-93-6 475460-95-8 475460-96-9
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475461-01-9 475461-02-0 475461-03-1 475461-04-2
475461-05-3 475461-06-4 475461-07-5 475461-08-6
475461-09-7 **475461-10-0** 475461-11-1 475461-12-2
475461-13-3 475461-14-4 475461-15-5 475461-16-6
475461-17-7 475461-18-8 475461-19-9 475461-20-2
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475461-25-7 475461-26-8 475461-27-9 475461-28-0
475461-29-1 475461-30-4 475461-31-5 475461-32-6
475461-33-7 475461-34-8
(organic electroluminescent device containing aromatic condensed ring compound as electron-transporting or **light-emitting** or hole/exciton-blocking layer)

L35 ANSWER 24 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:658423 HCAPLUS
DOCUMENT NUMBER: 137:192564
TITLE: Electroluminescent component and preparation method
INVENTOR(S): Satou, Tetsuya; Matsuo, Mikiko; Sugiura, Hisanori; Uemura, Tsuyoshi
PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan
SOURCE: PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

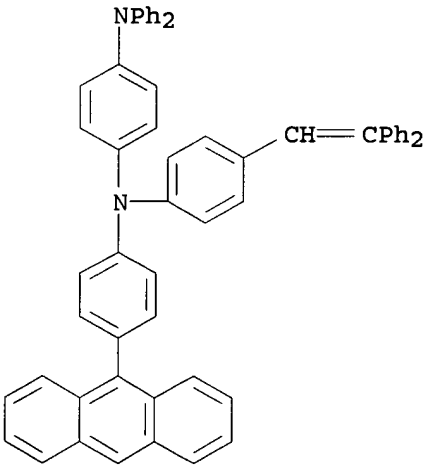
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002067632	A1	20020829	WO 2002-JP1342	20020218
			<--	
W: KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
JP 2002324681	A2	20021108	JP 2002-39112	20020215
			<--	
JP 3598097	B2	20041208		
PRIORITY APPLN. INFO.:			JP 2001-44728 A	20010221
			<--	

AB The invention refers to an electroluminescent component comprising a **luminescent** region between a pair of electrodes, wherein the **luminescent** region contains a **mixt** . of (A) a **luminescent** material, an charge transport compound and a heavy metal, or (B) charge transport compound containing a charge transport moiety and also a **luminescent** moiety and a heavy metal; for simpler synthesis and high efficiency.

IT **346610-47-7P 346610-48-8P**
(electroluminescent component and preparation method)

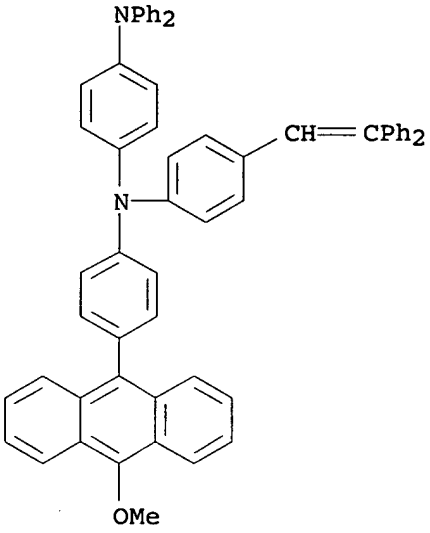
RN 346610-47-7 HCAPLUS

CN 1,4-Benzenediamine, N-[4-(9-anthracenyl)phenyl]-N-[4-(2,2-diphenylethenyl)phenyl]-N',N'-diphenyl- (9CI) (CA INDEX NAME)



RN 346610-48-8 HCAPLUS

CN 1,4-Benzenediamine, N-[4-(2,2-diphenylethenyl)phenyl]-N-[4-(10-methoxy-9-anthracenyl)phenyl]-N',N'-diphenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS H05B033-10
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
ST electroluminescent device **luminescent** material charge transport
IT Electroluminescent devices
Luminescent substances
(electroluminescent component and preparation method)
IT 131312-28-2P 317366-13-5P **346610-47-7P**
346610-48-8P
(electroluminescent component and preparation method)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 25 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:621498 HCAPLUS
DOCUMENT NUMBER: 135:324994
TITLE: Undoping type of highly efficient organic light emitting diodes
AUTHOR(S): Uchida, Manabu; Ono, Youhei; Yokoi, Hajime; Nakano, Takaharu; Furukawa, Kenji
CORPORATE SOURCE: Yokohama Research Center, Chisso Corporation, Kanagawa, 236-8605, Japan
SOURCE: Journal of Photopolymer Science and Technology (2001), 14(2), 305-310
CODEN: JSTEEW; ISSN: 0914-9244
PUBLISHER: Technical Association of Photopolymers, Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors have now prepared five boryl anthracene derivs. and evaluated them as an undoping type of emitting material for organic light emitting diodes (OLEDs). The derivs. had high glass transition temps. because of a 3 dimensional mol. conformation of a dimesitylboryl anthracene. The OLEDs with the boryl anthracene derivs. showed high performance. For example, the efficiencies of green devices were over 15 lmW-1 and the efficiency of a blue device reached 6.1 lmW-1. The steric geometry of the boryl

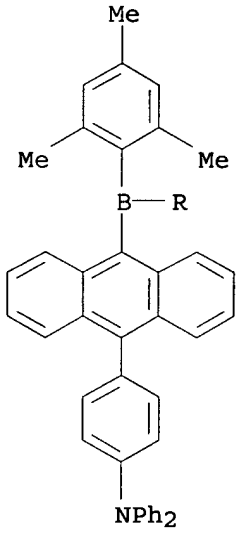
anthracene derivs. functions as an inhibitor of a intermol. interaction. The longevity of an orange device had no problem for a practical use.

IT **368868-89-7P 368868-90-0P 368868-92-2P**
(undoping type of highly efficient organic **light emitting** diodes)

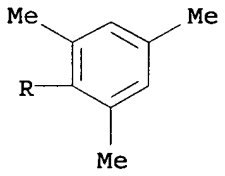
RN 368868-89-7 HCAPLUS

CN Benzenamine, 4-[10-[bis(2,4,6-trimethylphenyl)boryl]-9-anthracenyl]-N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



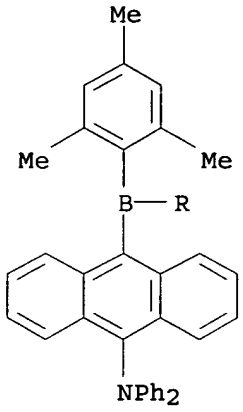
PAGE 2-A



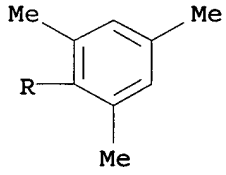
RN 368868-90-0 HCAPLUS

CN 9-Anthracenamine, 10-[bis(2,4,6-trimethylphenyl)boryl]-N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

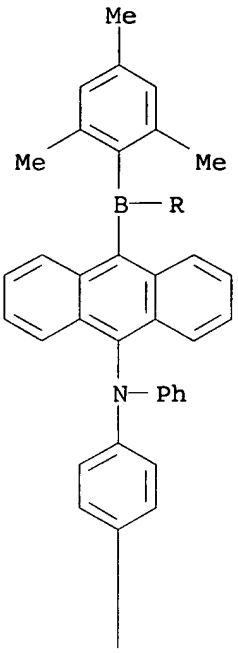


PAGE 2-A

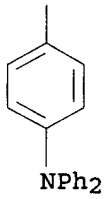


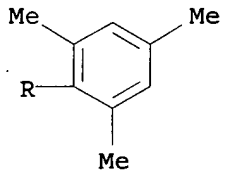
RN 368868-92-2 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diamine, N-[10-[bis(2,4,6-trimethylphenyl)boryl]-9-anthracenyl]-N,N',N'-triphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A





CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 65, 76, 77

IT 281668-51-7P **368868-89-7P 368868-90-0P 368868-92-2P**
(undoping type of highly efficient organic **light emitting** diodes)

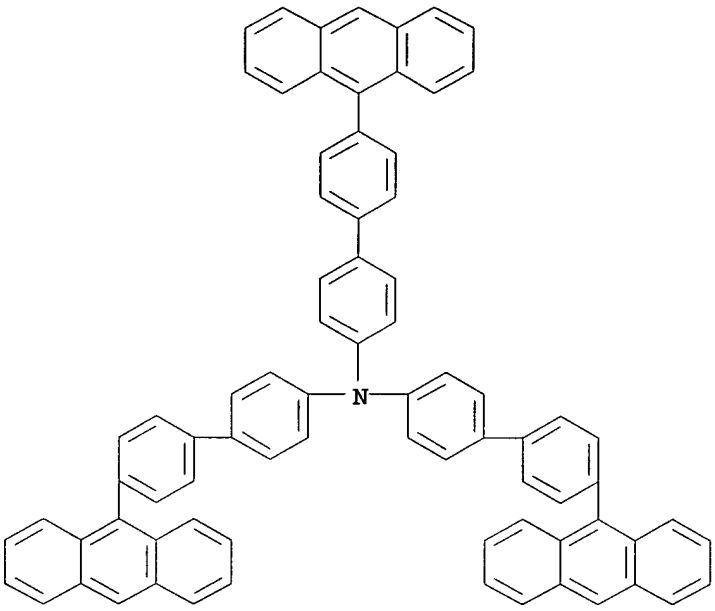
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 26 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:517739 HCAPLUS
DOCUMENT NUMBER: 135:114269
TITLE: Condensed polycyclic hydrocarbon compound and luminescent material
INVENTOR(S): Igarashi, Tatsuya
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001192652	A2	20010717	JP 2000-3687 <--	2000 0112
US 2001008711	A1	20010719	US 2001-755080 <--	2001 0108
US 6696178	B2	20040224		
US 2004137274	A1	20040715	US 2004-751953 <--	2004 0107

PRIORITY APPLN. INFO.:	JP 2000-3687	A	2000 0112 <--
	US 2001-755080	A3	2001 0108 <--

AB The invention refers to a condensed polycyclic hydrocarbon compound R1N(R2)R3 [R1-3 = polycyclic hydrocarbon with at least three rings].
IT **349669-81-4P**
(condensed polycyclic hydrocarbon compound and **luminescent** material)
RN 349669-81-4 HCAPLUS
CN [1,1'-Biphenyl]-4-amine, 4'-(9-anthracenyl)-N,N-bis[4'-(9-anthracenyl)[1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS C07C211-54; H05B033-14; H05B033-22
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
IT 349669-77-8P 349669-79-0P **349669-81-4P**
(condensed polycyclic hydrocarbon compound and **luminescent** material)

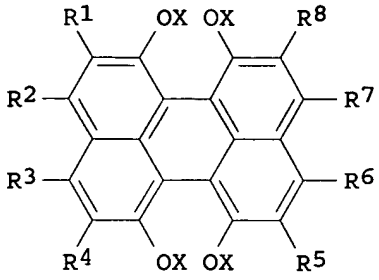
L35 ANSWER 27 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:341108 HCAPLUS
DOCUMENT NUMBER: 131:51819
TITLE: Organic electroluminescent device containing perylene compound
INVENTOR(S): Higashiguchi, Itaru; Oda, Atsushi; Suzuki, Toshiyasu; Tanaka, Taizo
PATENT ASSIGNEE(S): NEC Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11144870	A2	19990528	JP 1997-304207	1997 1106 <--
JP 3104223	B2	20001030		

PRIORITY APPLN. INFO.: JP 1997-304207 1997 1106 <--

OTHER SOURCE(S): MARPAT 131:51819

GI



I

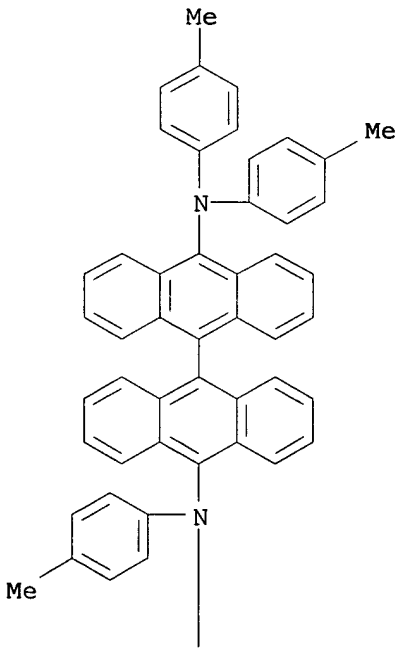
AB The device has a cathode and an anode sandwiching a light-emitting layer-containing organic thin film layer containing a perylene compound I (R1-8 = H, halogen, OH, NH2, NO2, cyano, alkyl, alkenyl, cycloalkyl, alkoxy, aromatic hydrocarbon, aromatic heterocyclic, aralkyl, aryloxy, alkoxycarbonyl, CO2H; R1-R8 may bond to form a ring; X = alkyl, alkenyl, cycloalkyl, aromatic hydrocarbon, aromatic heterocyclic, aralkyl). The device shows high luminance and high color purity.

IT **223735-62-4P 227013-26-5P**
(red-**light-emitting** electroluminescent device containing perylene compound)

RN 223735-62-4 HCAPLUS

CN [9,9'-Bianthracene]-10,10'-diamine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



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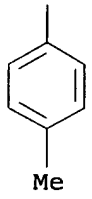
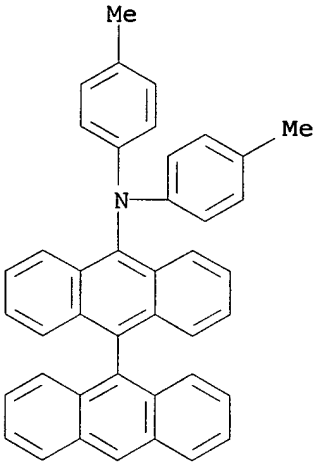


RN 227013-26-5 HCAPLUS
CN [9,9'-Bianthracen]-10-amine, N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 24, 25, 74
IT 603-34-9P 2085-33-8P 4432-94-4P 6940-30-3P 14642-34-3P
15546-43-7P 24601-13-6P 123173-91-1P 123174-58-3P
134257-64-0P 146162-54-1P 157077-42-4P 157077-43-5P
194214-31-8P 194794-43-9P 214341-85-2P 221453-37-8P
223735-62-4P 227013-18-5P 227013-19-6P 227013-20-9P
227013-21-0P 227013-22-1P 227013-23-2P 227013-24-3P
227013-25-4P **227013-26-5P** 227300-28-9P
(red-**light-emitting** electroluminescent device containing perylene compound)

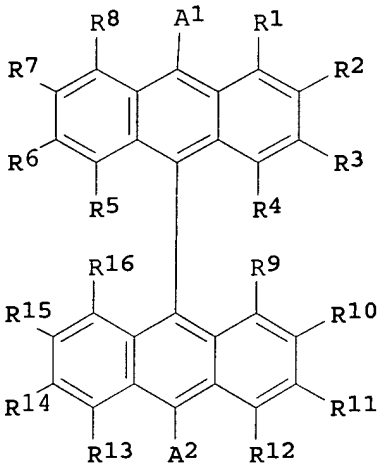
L35 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:260962 HCAPLUS
DOCUMENT NUMBER: 130:344892
TITLE: Organic electroluminescent material containing anthracene derivative and organic electroluminescent device with it
INVENTOR(S): Tamano, Michiko; Maki, Shinichiro; Onikubo, Shunichi; Okutsu, Satoshi; Enokida, Toshio
PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11111458	A2	19990423	JP 1997-264468 <--	19970929

PRIORITY APPLN. INFO.: JP 1997-264468 <-- 19970929

OTHER SOURCE(S): MARPAT 130:344892
GI



I

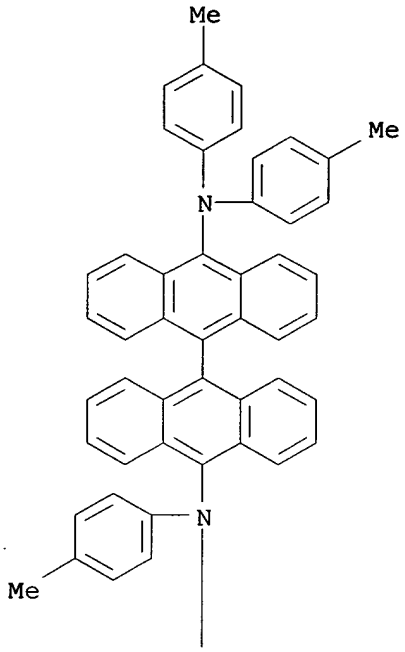
AB The material comprises an anthracene derivative having a formula I (A1, 2 = alkyl, alkoxy, aryloxy, condensed polycyclic, alkylamino, arylamino; R1-16 = H, halogen, cyano, NO2, alkyl, alkoxy, aryloxy, alkylthio, arylthio, cyclic group, NH2; R1-16 may bond to form a ring). The device has a light-emitting layer-containing plural organic compound thin films sandwiched between a pair of electrodes, at least one of the films contains the material. The device shows high luminance with efficiency and long life.

IT **223735-62-4P 223735-63-5P 223735-64-6P**
(**light-emitting** material containing anthracene derivative for electroluminescent device)

RN 223735-62-4 HCAPLUS

CN [9,9'-Bianthracene]-10,10'-diamine, N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



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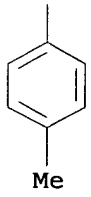
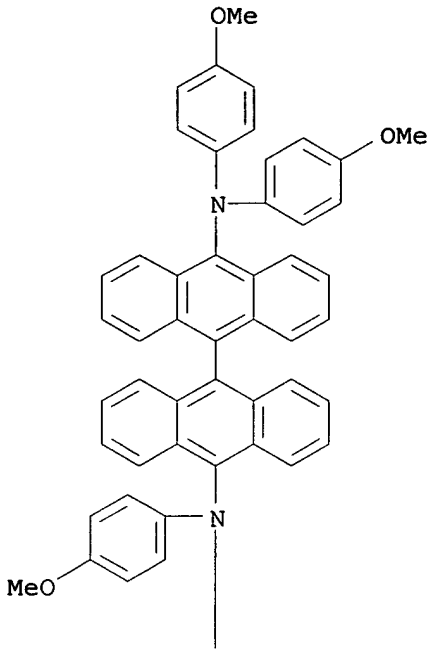
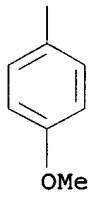


RN 223735-63-5 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N,N',N'-tetrakis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

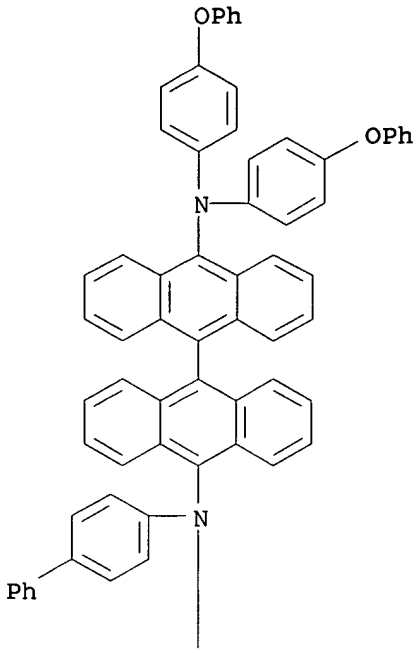


PAGE 2-A

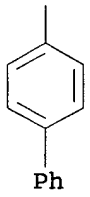


RN 223735-64-6 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N-bis([1,1'-biphenyl]-4-yl)-N',N'-bis(4-phenoxyphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



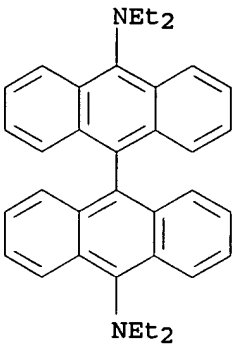
PAGE 2-A



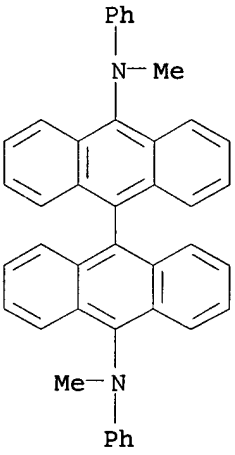
IT **223735-40-8 223735-41-9 223735-42-0**
223735-43-1 223735-44-2 223735-45-3
223735-46-4 223735-47-5 223735-48-6
223735-49-7 223735-50-0 223735-52-2
223735-53-3 223735-54-4 223735-55-5
223735-56-6 223735-58-8 223735-59-9
223735-60-2 223735-61-3
(**light-emitting** material containing anthracene derivative for electroluminescent device)

RN 223735-40-8 HCAPLUS

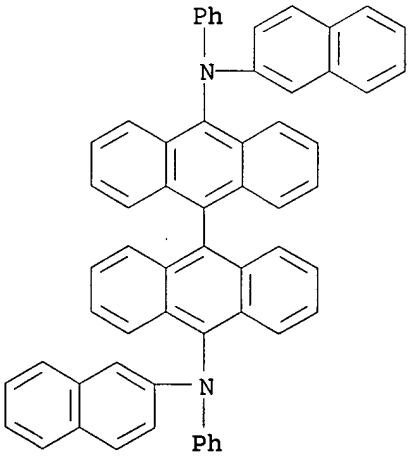
CN [9,9'-Bianthracene]-10,10'-diamine, N,N,N',N'-tetraethyl- (9CI) (CA INDEX NAME)



RN 223735-41-9 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N'-dimethyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)

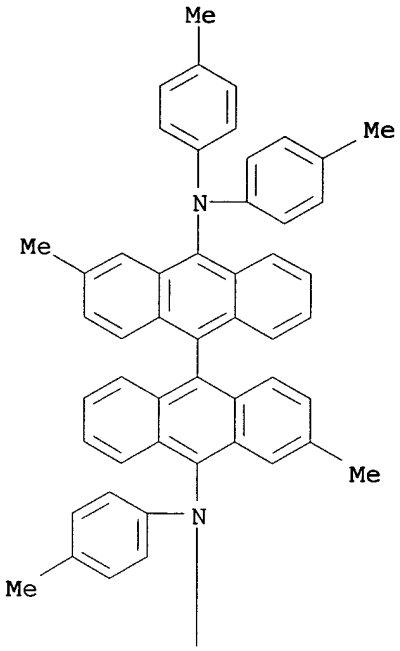


RN 223735-42-0 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N'-di-2-naphthalenyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)



RN 223735-43-1 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, 3,3'-dimethyl-N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



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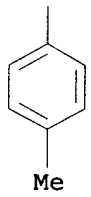
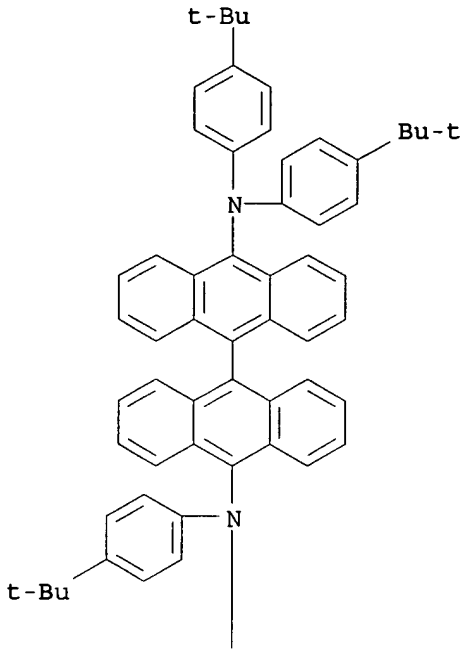


RN 223735-44-2 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N,N',N'-tetrakis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



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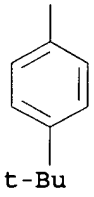
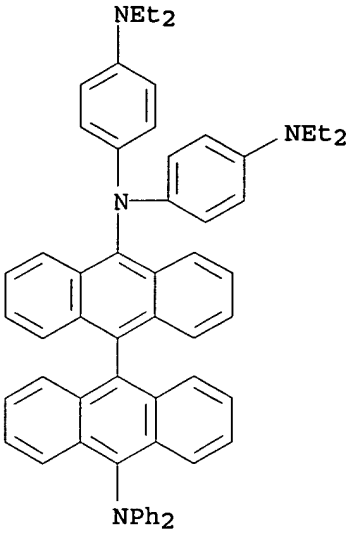
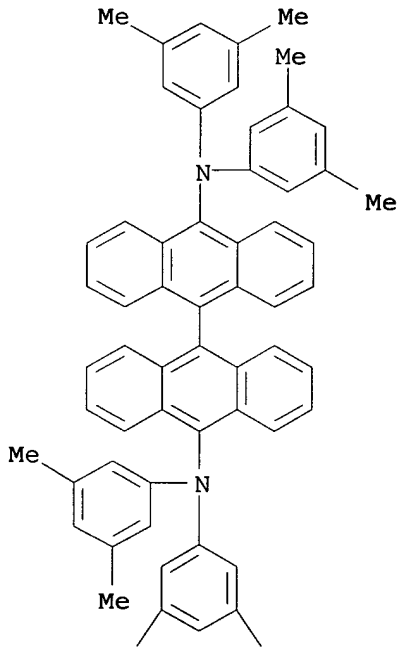


RN 223735-45-3 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N-bis[4-(diethylamino)phenyl]-N',N'-diphenyl- (9CI) (CA INDEX NAME)



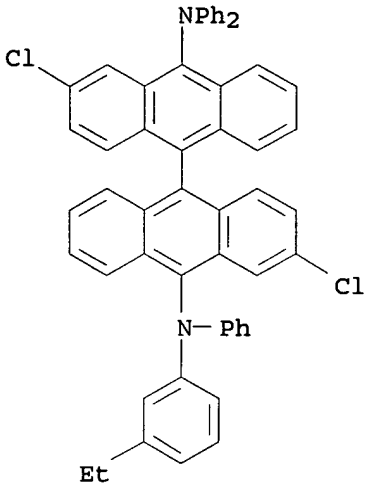
RN 223735-46-4 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N,N',N'-tetrakis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



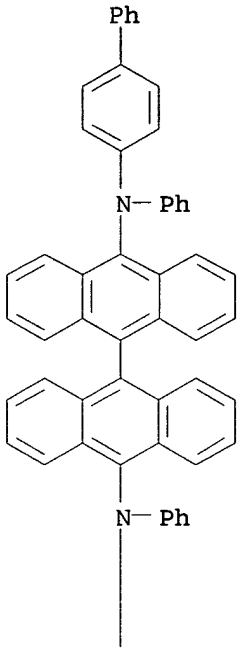
PAGE 2-A

RN 223735-47-5 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, 3,3'-dichloro-N-(3-ethylphenyl)-N,N',N'-triphenyl- (9CI) (CA INDEX NAME)



RN 223735-48-6 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N'-bis([1,1'-biphenyl]-4-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



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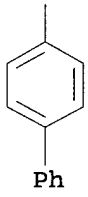
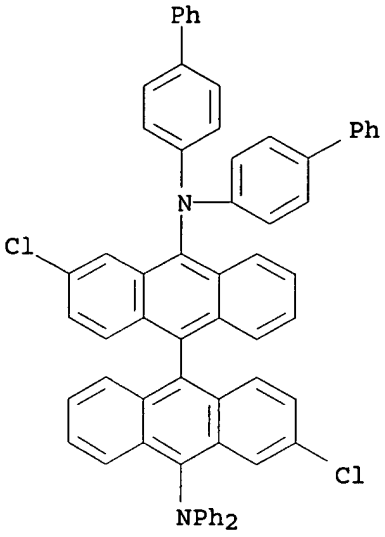
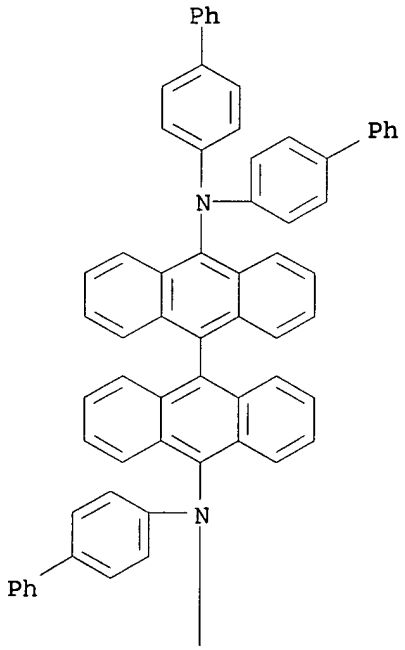


RN 223735-49-7 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N-bis([1,1'-biphenyl]-4-yl)-3,3'-dichloro-N',N'-diphenyl- (9CI) (CA INDEX NAME)



RN 223735-50-0 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N,N',N'-tetrakis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)

PAGE 1-A



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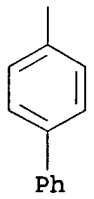
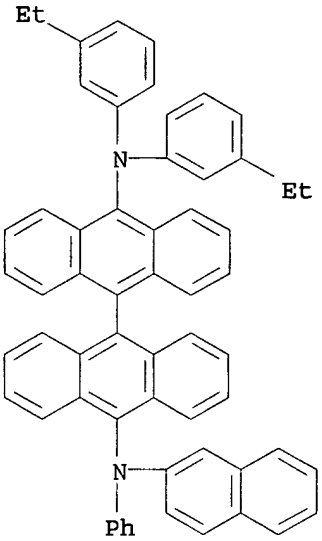
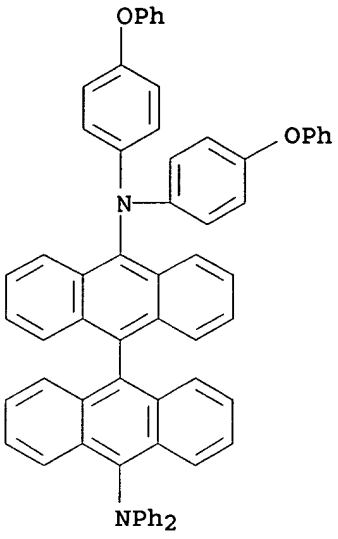


RN 223735-52-2 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N-bis(3-ethylphenyl)-N'-2-naphthalenyl-N'-phenyl- (9CI) (CA INDEX NAME)

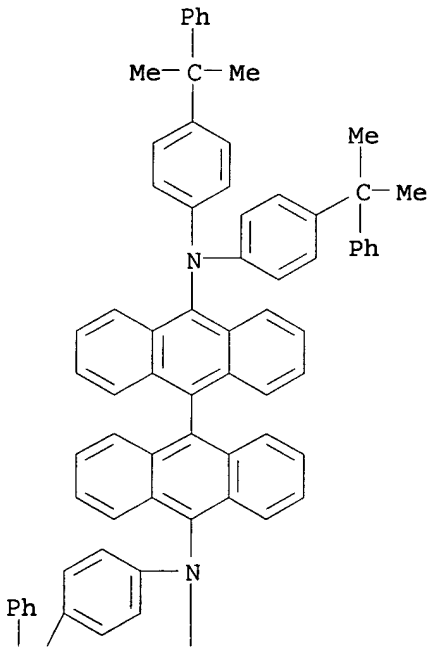


RN 223735-53-3 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N-bis(4-phenoxyphenyl)-N',N'-diphenyl- (9CI) (CA INDEX NAME)



RN 223735-54-4 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N,N',N'-tetrakis[4-(1-methyl-1-phenylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



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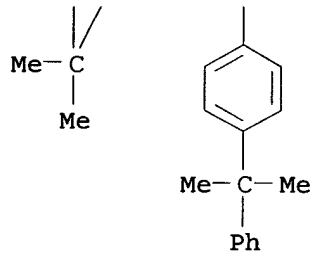
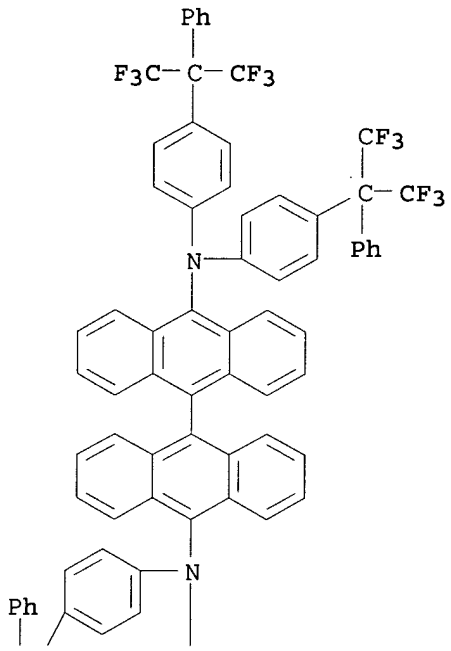


RN 223735-55-5 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N,N',N'-tetrakis[4-[2,2,2-trifluoro-1-phenyl-1-(trifluoromethyl)ethyl]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



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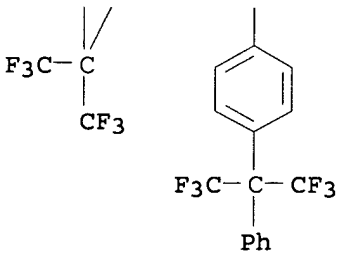
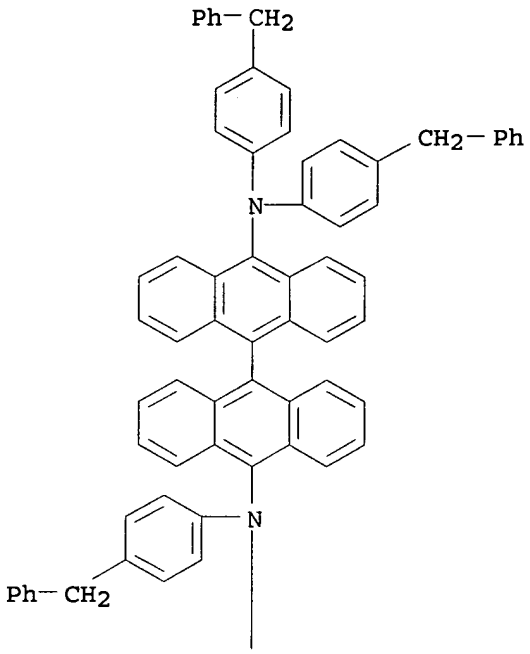
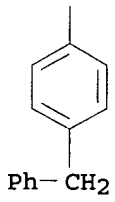


RN 223735-56-6 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N,N',N'-tetrakis[4-(phenylmethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

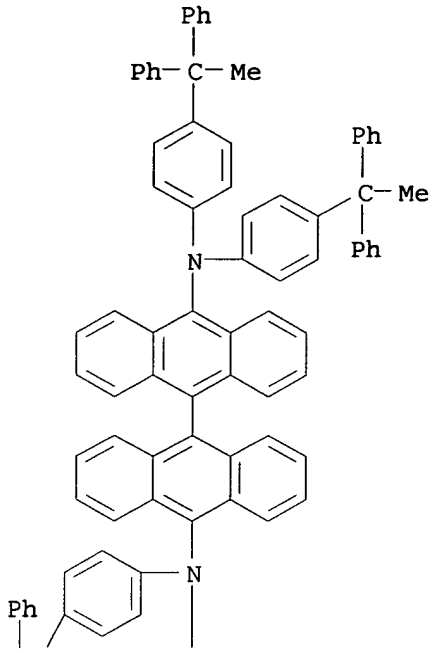


PAGE 2-A

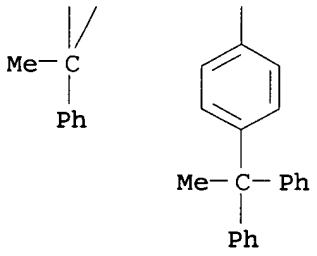


RN 223735-58-8 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N,N',N'-tetrakis[4-(1,1-diphenylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

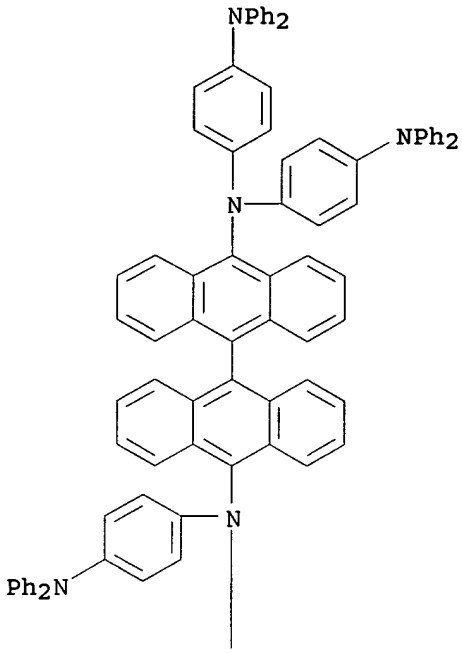


PAGE 2-A

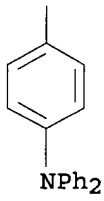


RN 223735-59-9 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N,N',N'-tetrakis[4-(diphenylamino)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

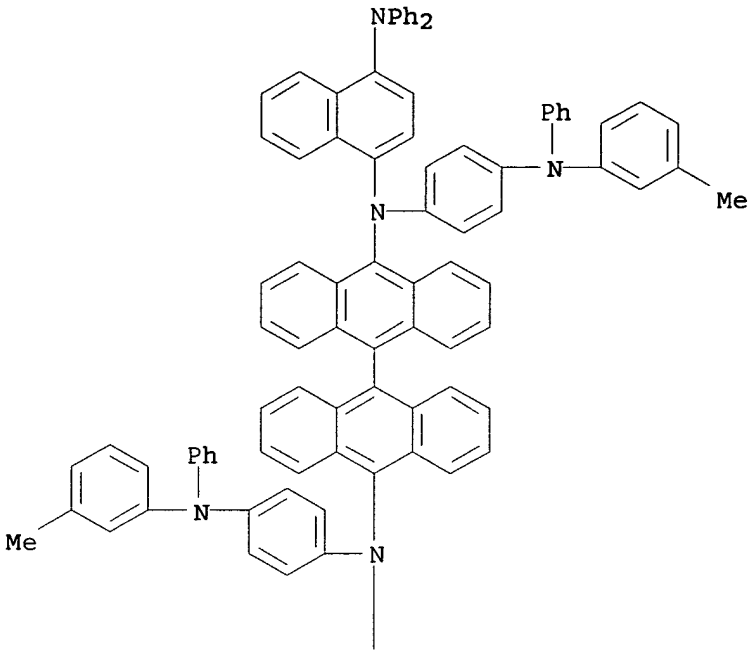


PAGE 2-A

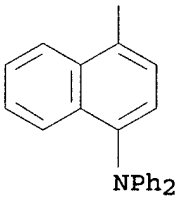


RN 223735-60-2 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N'-bis[4-(diphenylamino)-1-naphthalenyl]-N,N'-bis[4-[(3-methylphenyl)phenylamino]phenyl]-(9CI) (CA INDEX NAME)

PAGE 1-A

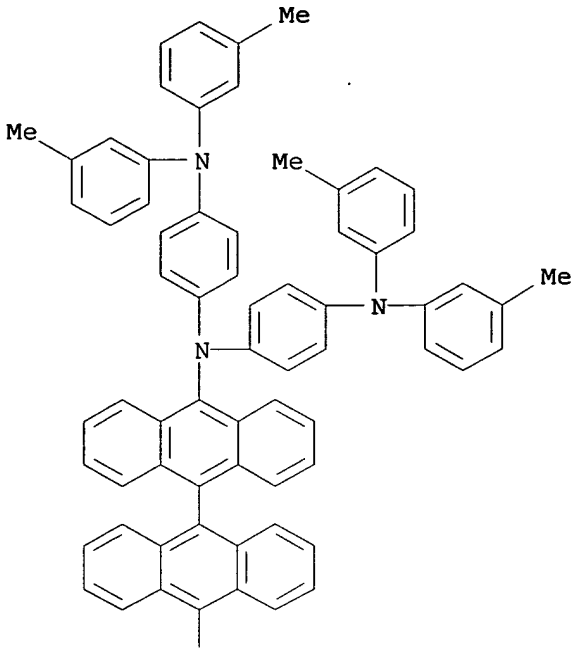


PAGE 2-A

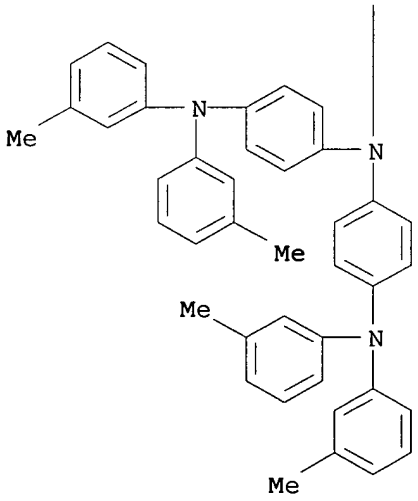


RN 223735-61-3 HCAPLUS
CN [9,9'-Bianthracene]-10,10'-diamine, N,N,N',N'-tetrakis[4-[bis(3-methylphenyl)amino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



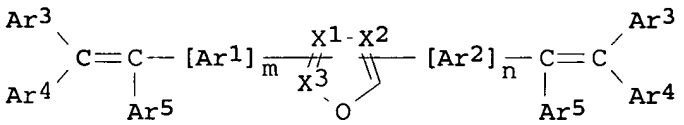
IC ICM H05B033-14
ICS C09K011-06
CC 73-12 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
IT **223735-62-4P 223735-63-5P 223735-64-6P**
(**light-emitting** material containing anthracene derivative for electroluminescent device)
IT 10294-75-4 120335-70-8 223735-31-7 223735-32-8 223735-33-9

223735-34-0 223735-35-1 223735-36-2 223735-37-3
223735-38-4 223735-39-5 **223735-40-8**
223735-41-9 223735-42-0 223735-43-1
223735-44-2 223735-45-3 223735-46-4
223735-47-5 223735-48-6 223735-49-7
223735-50-0 223735-51-1 **223735-52-2**
223735-53-3 223735-54-4 223735-55-5
223735-56-6 223735-57-7 **223735-58-8**
223735-59-9 223735-60-2 223735-61-3
224051-93-8, 9,9':10',9'':10'',9'''-Quateranthracene
(**light-emitting** material containing anthracene derivative for electroluminescent device)

L35 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:361085 HCAPLUS
DOCUMENT NUMBER: 129:47261
TITLE: Organic electroluminescent materials and devices using the same with high luminance and long life
INVENTOR(S): Okutsu, Satoshi; Onikubo, Shunichi; Tamano, Michiko; Enokida, Toshio
PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10152676	A2	19980609	JP 1996-313289 <--	19961125

PRIORITY APPLN. INFO.: JP 1996-313289 <-- 19961125
OTHER SOURCE(S): MARPAT 129:47261
GI

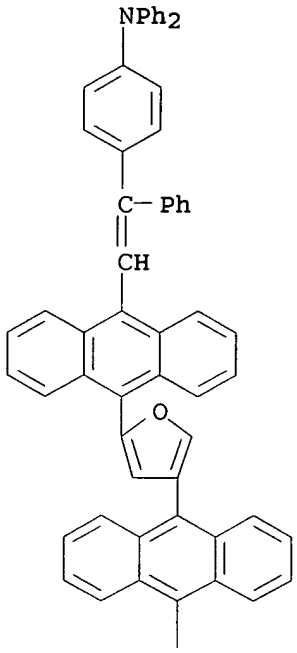


I

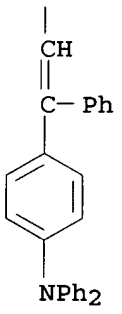
AB Title materials are oxazole derivs. I [X1-3 = N, CH, or C bonding with Ar1 or Ar2, where X1 or X3 is C; Ar1-2 = arylene; Ar3-5 = H, cyano, (cyclo) alkyl, aryl, heterocycle; m, n = 0-4]. Electroluminescent devices including layers (preferably emitting layers) containing I are also claimed.
IT **208125-00-2**
(organic electroluminescent devices including unsatd.-group-containing oxazole derivs. with high **luminance** and long life)
RN 208125-00-2 HCAPLUS

CN Benzenamine, 4,4'-[2,4-furandiylbis[10,9-anthracenediyl(1-phenyl-2,1-ethenediyl)]]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM C09K011-06
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
IT 16157-33-8 19473-91-7 25664-54-4 103327-40-8 137663-89-9
151703-21-8 173087-20-2 197154-03-3 208124-76-9
208124-77-0 208124-78-1 208124-79-2 208124-80-5
208124-82-7 208124-83-8 208124-84-9 208124-85-0
208124-86-1 208124-87-2 208124-88-3 208124-89-4
208124-90-7 208124-91-8 208124-92-9 208124-93-0
208124-94-1 208124-95-2 208124-97-4 208124-99-6
208125-00-2 208125-01-3 208125-02-4 208125-03-5
208125-04-6 208125-05-7 208125-06-8 208125-07-9

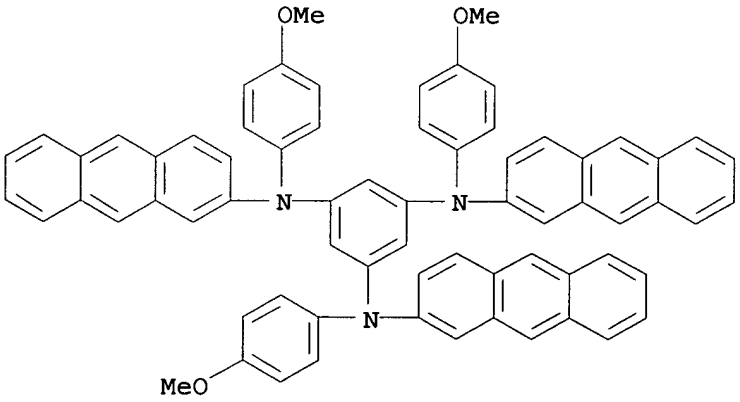
208125-08-0 208125-09-1 208125-10-4 208125-11-5
208125-12-6 208125-13-7 208125-14-8 208125-15-9
208125-16-0
(organic electroluminescent devices including unsatd.-group-containing oxazole derivs. with high **luminance** and long life)

L35 ANSWER 30 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:116627 HCAPLUS
DOCUMENT NUMBER: 128:146918
TITLE: Synthesis and properties of novel derivatives of 1,3,5-tris(diarylamino)benzenes for electroluminescent devices
AUTHOR(S): Thelakkat, Mukundan; Schmidt, Hans Werner
CORPORATE SOURCE: Bayreuther Institut Makromolekuelforschung, Universitaet Bayreuth, Bayreuth, D-95540, Germany
SOURCE: Advanced Materials (Weinheim, Germany) (1998), 10(3), 219-223
CODEN: ADVMEW; ISSN: 0935-9648
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In the frame of developing hole-transport and emitter materials having low ionization potentials and high Tgs the synthesis of derivs. of 1,3,5-tris(diarylamino)benzenes with different aryl substituents like biphenyl, naphthyl, and anthracyl groups is described. The absorption, fluorescence, electrochem. behavior, and thermal properties of these materials were investigated. Some of these compds. exhibit no recrystn. at all upon cooling from their melts or on heating ≥Tgs and form amorphous films by vapor deposition. Some possess emitting properties in the blue and green region, resp. in single-layer LEDs.

IT **189178-05-0P**
(preparation, UV/VIS absorption and fluorescence spectra, redox potentials, HOMO energies, DSC data, and **LED** characteristics of)

RN 189178-05-0 HCAPLUS
CN 1,3,5-Benzenetriamine, N,N',N''-tri-2-anthracenyl-N,N',N''-tris(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



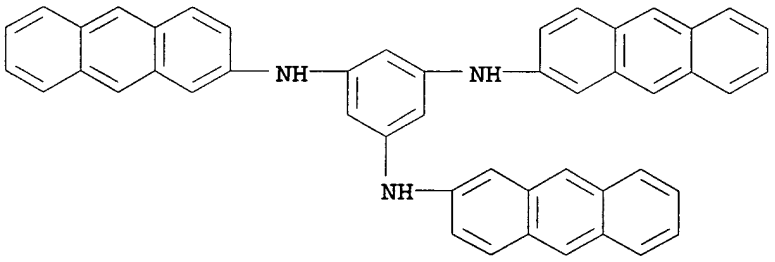
CC 73-5 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 76

IT 184895-05-4P 189178-04-9P **189178-05-0P**
(preparation, UV/VIS absorption and fluorescence spectra, redox potentials, HOMO energies, DSC data, and **LED** characteristics of)

L35 ANSWER 31 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:90838 HCAPLUS
DOCUMENT NUMBER: 128:186310
TITLE: Synthesis and properties of new hole transport materials for organic light emitting devices
AUTHOR(S): Thelakkat, Mukundan; Bacher, Andreas; Fink, Ralf; Haubner, Frank; Schmidt, Hans-Werner
CORPORATE SOURCE: Makromolekulare Chemie I, Bayreuther Institute Makromolekulforschung, Universitat Bayreuth, Bayreuth, 95440, Germany
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1997), 3148(Organic Light-Emitting Materials and Devices), 306-312
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The authors synthesized low-mol.-weight tri-Ph diamines (TPDs), novel 1,3,5-tris(diarylamino)benzenes (TDABs), polymeric tri-Ph diamines and insol. tri-Ph amine networks based on tris(4-ethynylphenyl)amine as hole transport materials for electroluminescent displays. The HOMO energy values as determined from cyclic voltammetry measurements for TPDs and TDABs are between -4.97 and -5.16 eV. By using a polymeric TPD as hole transport layer and tris(8-quinolinolato)aluminum as emitter, LEDs with an onset voltage of 3V and a luminance up to 900 cd/m2 were obtained under ambient conditions, using airstable Al-electrode as cathode and ITO as anode.

IT **202477-56-3P**
(synthesis and properties of new hole transport materials for organic **light emitting** devices)
RN 202477-56-3 HCAPLUS
CN 1,3,5-Benzenetriamine, N,N',N''-tri-2-anthracenyl- (9CI) (CA INDEX NAME)



CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
IT 15546-43-7P 20441-07-0P 104216-56-0P 107001-70-7P
122738-21-0P 137832-75-8P 189178-08-3P 189178-09-4P
201026-13-3P 201026-14-4P 201026-17-7P **202477-56-3P**
203450-59-3P 203450-60-6P 203450-61-7P 203450-62-8P
203450-64-0P

(synthesis and properties of new hole transport materials for organic **light emitting** devices)
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:519436 HCAPLUS
DOCUMENT NUMBER: 127:197527
TITLE: Light-emitting material for organo-electroluminescence device and organo-electroluminescence device for which the light-emitting material is adapted
INVENTOR(S): Tamano, Michiko; Enokida, Toshio
PATENT ASSIGNEE(S): Toyo Ink Manufacturing Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 31 pp.
CODEN: EPXXDW
DOCUMENT TYPE: **Patent**
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 786926	A2	19970730	EP 1997-300551	1997 0129
			<--	
EP 786926	A3	19970806		
EP 786926	B1	20010822		
R: DE, FR, GB				
JP 09268283	A2	19971014	JP 1997-7113	1997 0120
			<--	
JP 3511825	B2	20040329		
US 5811834	A	19980922	US 1997-788436	1997 0128
			<--	
PRIORITY APPLN. INFO.:			JP 1996-12488 A	1996 0129
			<--	

OTHER SOURCE(S): MARPAT 127:197527
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

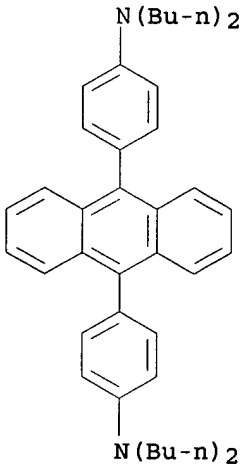
AB Compds. for use in electroluminescent devices are described by the general formulas I and II (A-D are the same or different groups each = (un)substituted alkyl, (un)substituted monocyclic group, or (un)substituted fused polycyclic group, or A and B and/or C and D, together with the nitrogen atom to which they are attached, form a substituted or unsubstituted heterocyclic ring; R1-20 are

independently selected from H, halogen atoms, (un)substituted alkyl, (un)substituted alkoxy, (un)substituted amino, (un)substituted monocyclic, or (un)substituted fused polycyclic groups; and X1-4 are independently selected form various linking groups). Television sets, light-emitting devices, copy machines, printers, liquid-crystal displays, displays, electrophotog. photoreceptors, photoelec. converters, solar cells, and image sensors containing electroluminescent devices employing the compds. are also described.

IT **194295-85-7 194295-89-1 194295-95-9**
194296-08-7 194296-10-1 194296-12-3
194296-14-5 194296-17-8 194296-34-9
194296-36-1 194296-38-3 194296-40-7
194296-44-1 194296-46-3 194296-48-5
194296-49-6 194296-50-9 194296-51-0
194296-52-1 194296-53-2 194296-54-3
194296-55-4 194296-56-5 194296-57-6
194296-58-7 194296-59-8 194296-60-1
194296-61-2
(**light-emitting** materials based on bis(aminophenyl)anthracene derivs. for organic electroluminescent devices and the electroluminescent devices and devices using them)

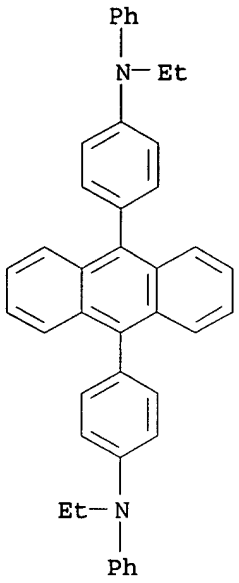
RN 194295-85-7 HCAPLUS

CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-dibutyl- (9CI) (CA INDEX NAME)

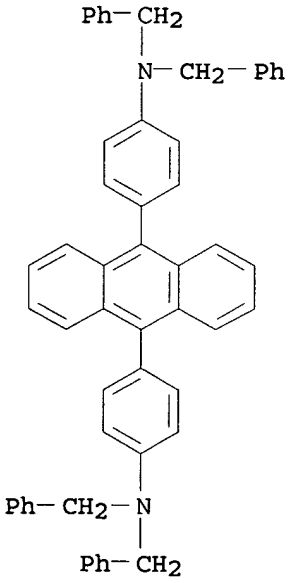


RN 194295-89-1 HCAPLUS

CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N-ethyl-N-phenyl- (9CI) (CA INDEX NAME)

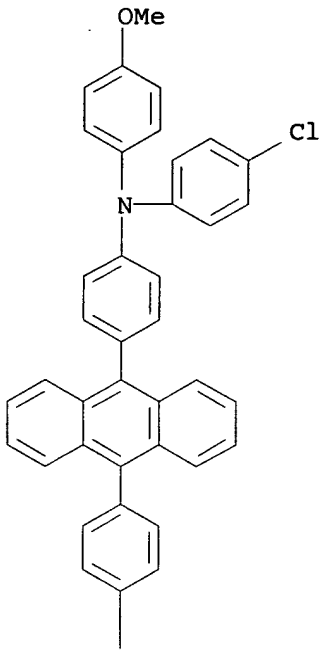


RN 194295-95-9 HCAPLUS
CN Benzenemethanamine, N,N'-(9,10-anthracenediyldi-4,1-phenylene)bis[N-(phenylmethyl)- (9CI) (CA INDEX NAME)

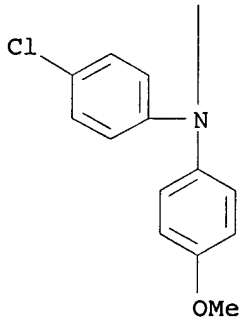


RN 194296-08-7 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N-(4-chlorophenyl)-N-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

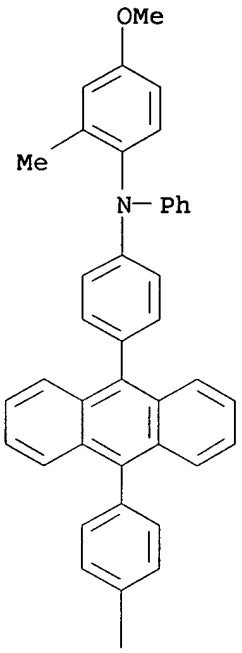


PAGE 2-A

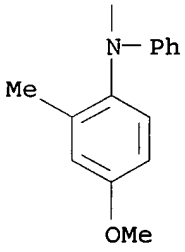


RN 194296-10-1 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N-(4-methoxy-2-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

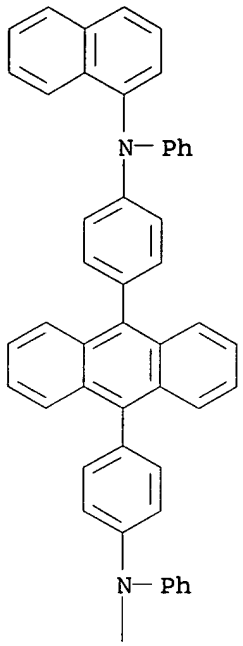


PAGE 2-A

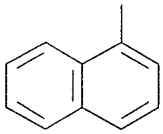


RN 194296-12-3 HCAPLUS
CN 1-Naphthalenamine, N,N'-(9,10-anthracenediyldi-4,1-phenylene)bis[N-phenyl- (9CI) (CA INDEX NAME)

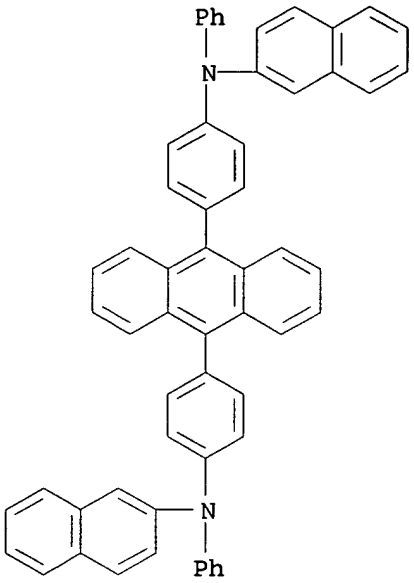
PAGE 1-A



PAGE 2-A

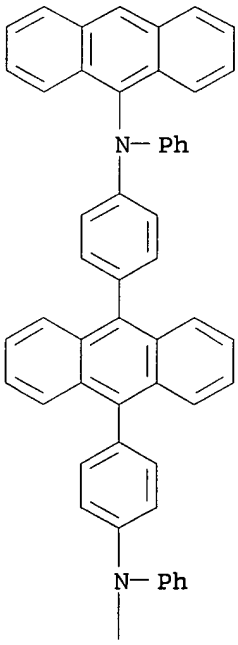


RN 194296-14-5 HCAPLUS
CN 2-Naphthalenamine, N,N'-(9,10-anthracenediyldi-4,1-phenylene)bis[N-phenyl- (9CI) (CA INDEX NAME)

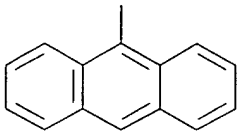


RN 194296-17-8 HCAPLUS
CN 9-Anthracenamine, N,N'-(9,10-anthracenediyldi-4,1-phenylene)bis[N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

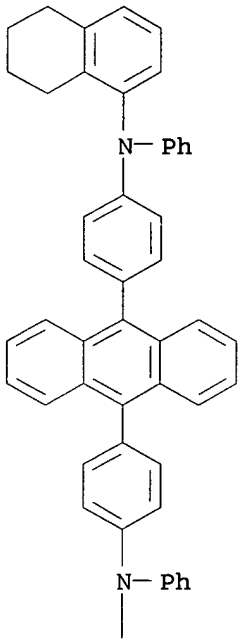


PAGE 2-A

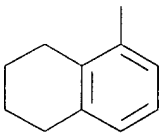


RN 194296-34-9 HCAPLUS
CN 1-Naphthalenamine, N,N'-(9,10-anthracenediyldi-4,1-phenylene)bis[5,6,7,8-tetrahydro-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



RN 194296-36-1 HCAPLUS
CN 1-Naphthalenamine, N,N'-(9,10-anthracenediyldi-4,1-phenylene)bis[5,6,7,8-tetrahydro-N-(5,6,7,8-tetrahydro-1-naphthalenyl)- (9CI) (CA INDEX NAME)

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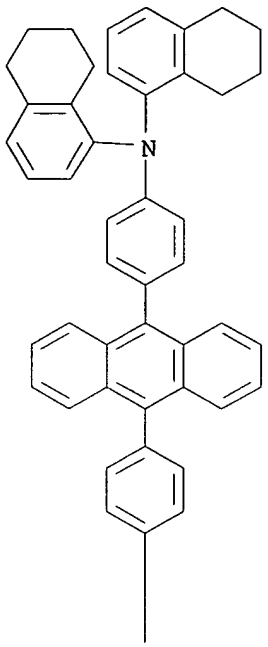

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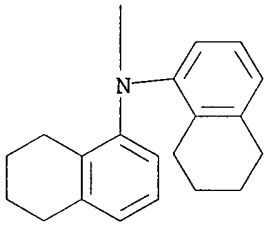

RN 194296-38-3 HCAPLUS
CN [1,1'-Biphenyl]-4-amine, N,N'-(9,10-anthracenediyldi-4,1-phenylene)bis[N-[1,1'-biphenyl]-4-yl- (9CI) (CA INDEX NAME)

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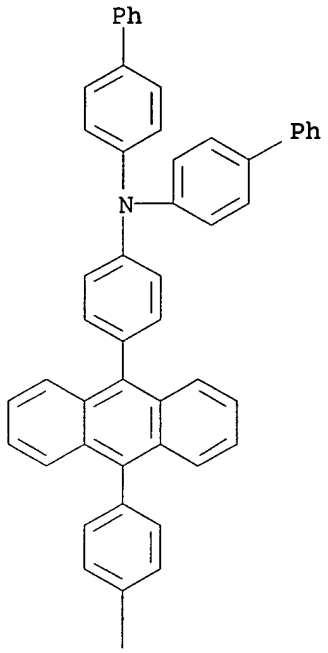

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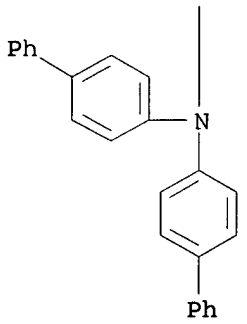

RN 194296-40-7 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-(phenylmethyl)phenyl]- (9CI) (CA INDEX NAME)

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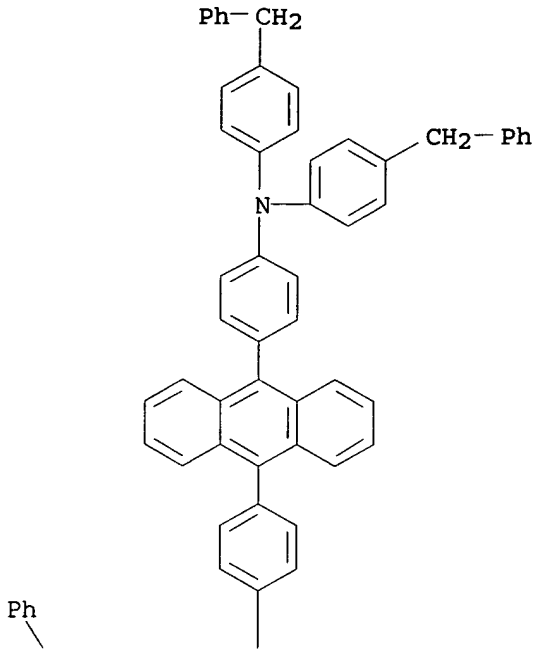

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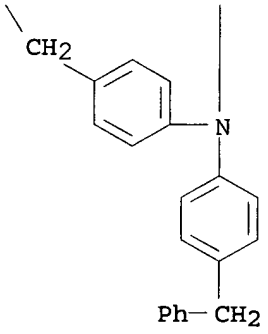

RN 194296-44-1 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-[2,2,2-trifluoro-1-phenyl-1-(trifluoromethyl)ethyl]phenyl]- (9CI) (CA INDEX NAME)

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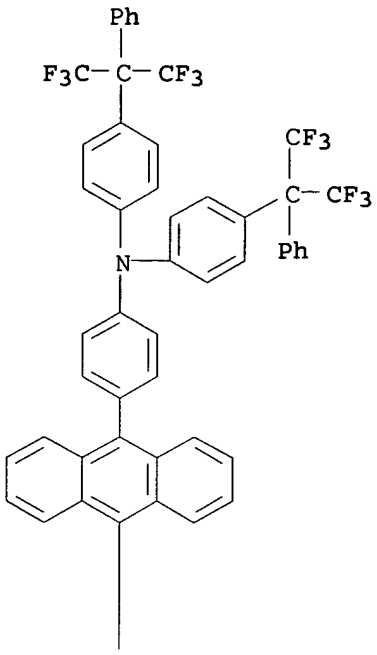

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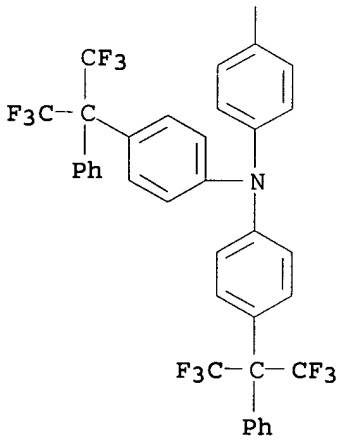
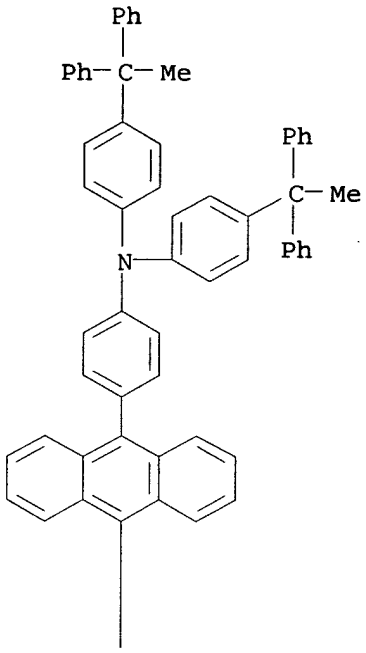


RN 194296-46-3 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-(1,1-diphenylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



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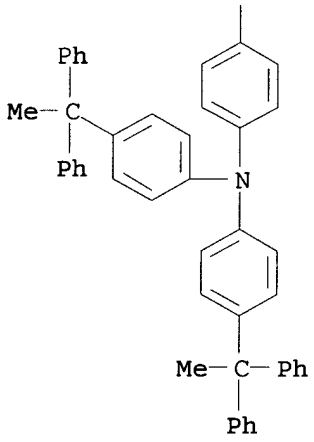

RN 194296-48-5 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-(methyldiphenylsilyl)phenyl]- (9CI) (CA INDEX NAME)

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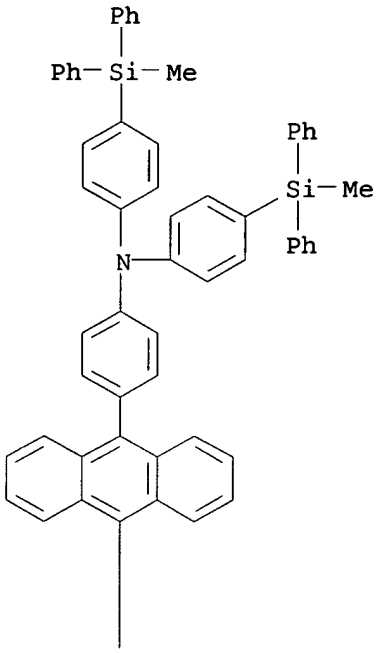

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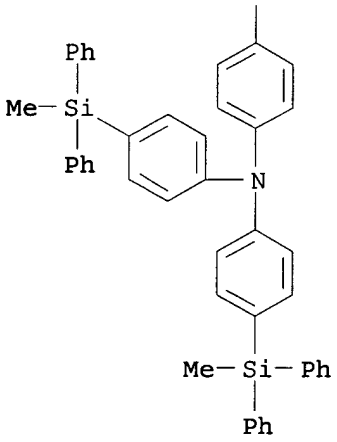

RN 194296-49-6 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-(1-phenylcyclohexyl)phenyl]- (9CI) (CA INDEX NAME)

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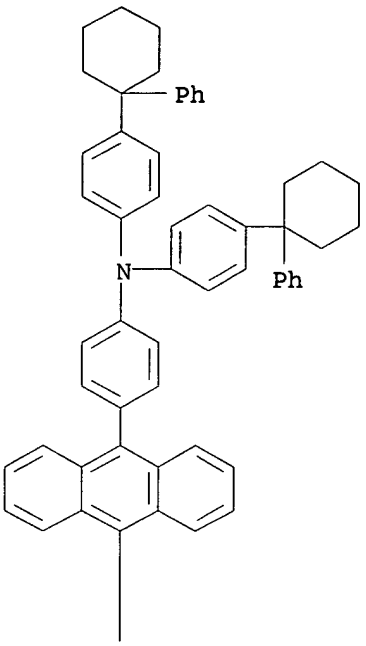

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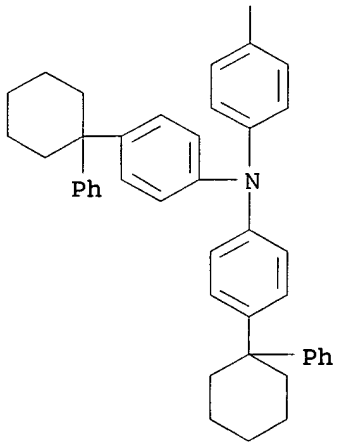

RN 194296-50-9 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-(dimethylphenylsilyl)phenyl]- (9CI) (CA INDEX NAME)

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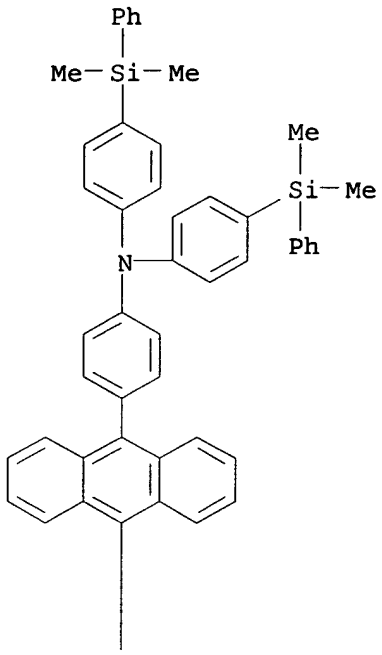

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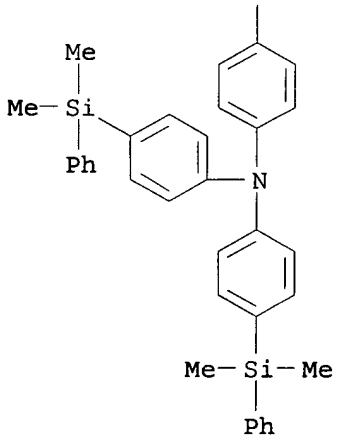

RN 194296-51-0 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis(4-phenoxyphenyl)- (9CI) (CA INDEX NAME)

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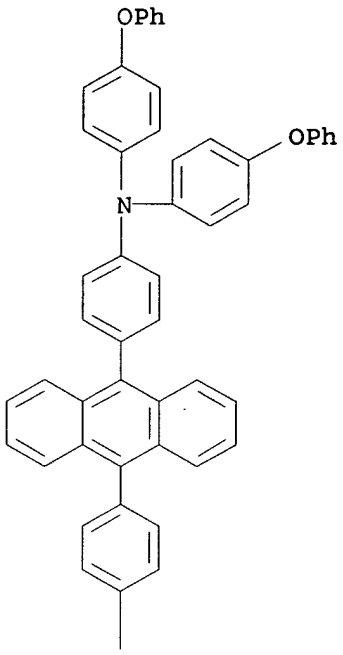

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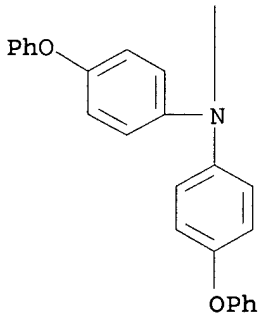

RN 194296-52-1 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-(phenylthio)phenyl]- (9CI) (CA INDEX NAME)

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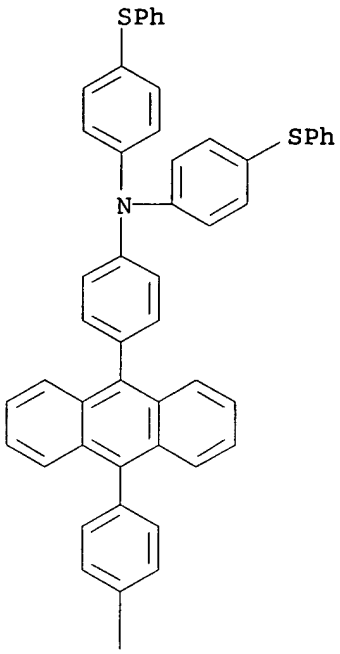

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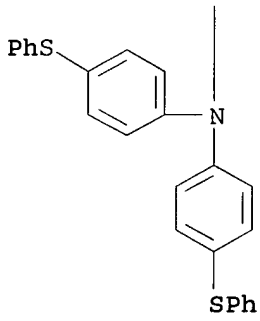

RN 194296-53-2 HCAPLUS
CN Methanone, [9,10-anthracenediylbis(4,1-phenylenenitrilodi-4,1-phenylene)]tetrakis[phenyl- (9CI) (CA INDEX NAME)

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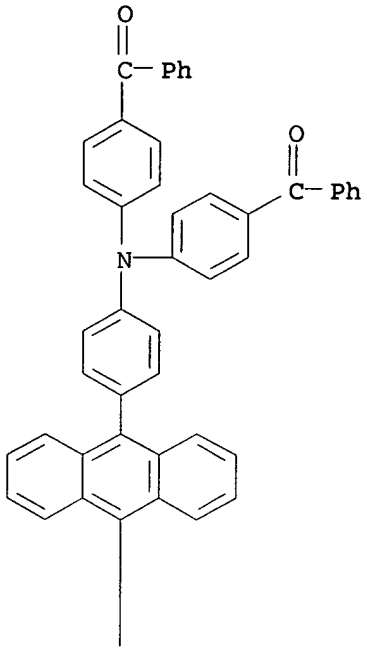

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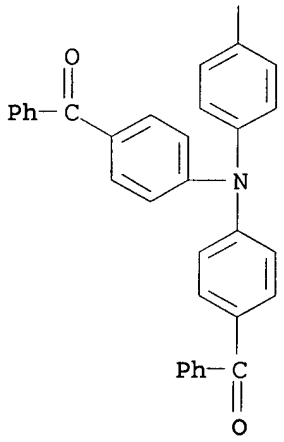

RN 194296-54-3 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-(phenylsulfonyl)phenyl]- (9CI) (CA INDEX NAME)

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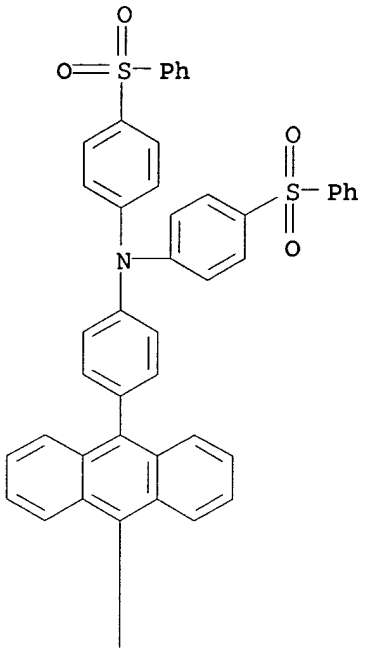

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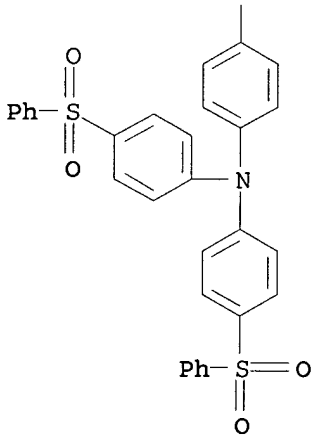

RN 194296-55-4 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-(diphenylphosphino)phenyl]- (9CI) (CA INDEX NAME)

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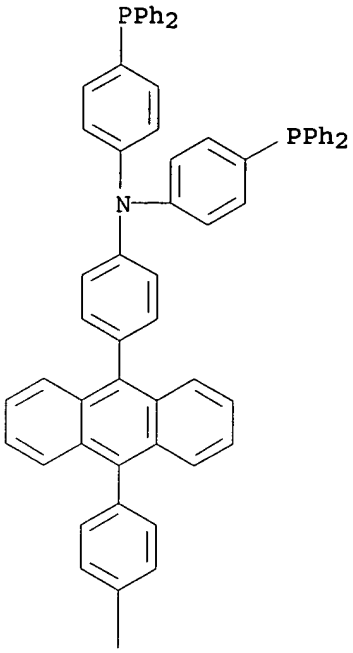

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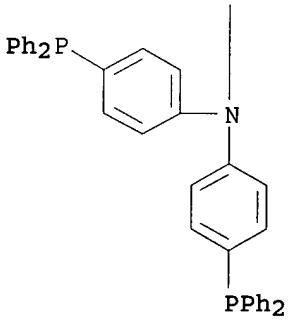

RN 194296-56-5 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-(diphenylphosphinyl)phenyl]- (9CI) (CA INDEX NAME)

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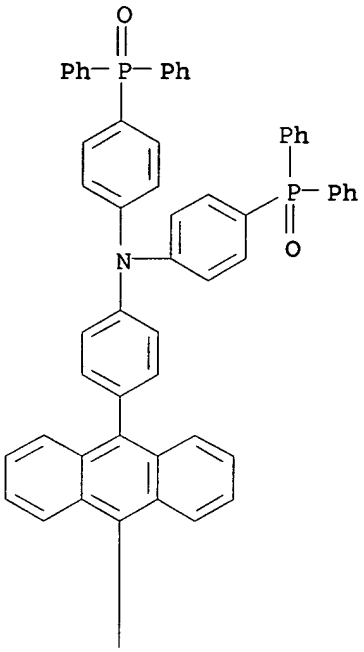

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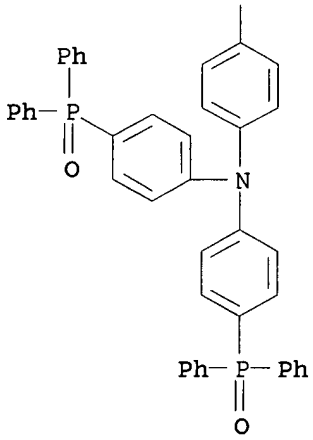

RN 194296-57-6 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-[(4-methylphenyl)phenylphosphino]phenyl]- (9CI) (CA INDEX NAME)

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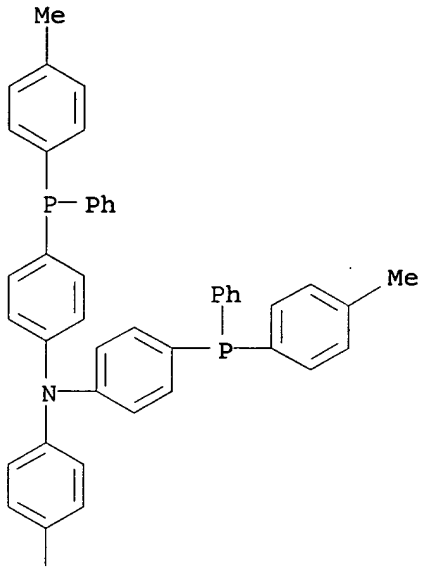

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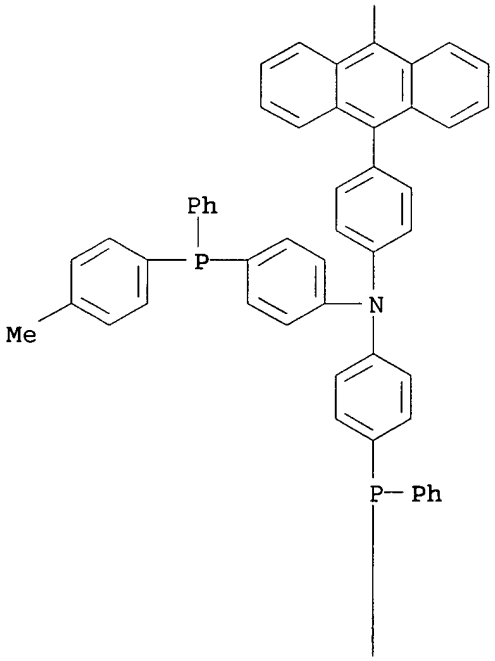

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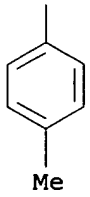

RN 194296-58-7 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-[bis(4-methylphenyl)phosphino]phenyl]- (9CI) (CA INDEX NAME)

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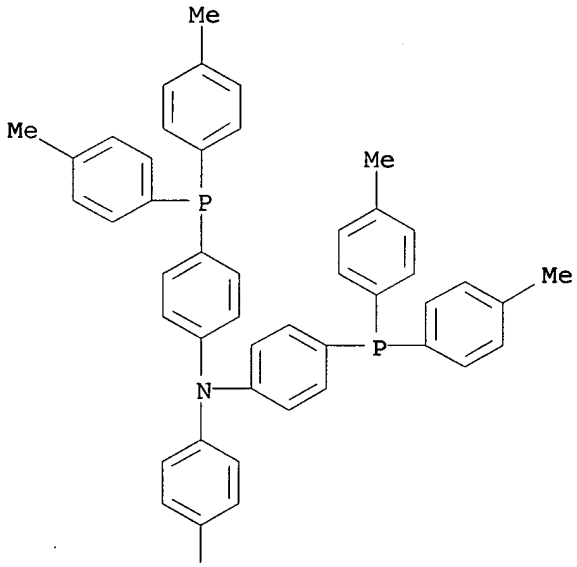

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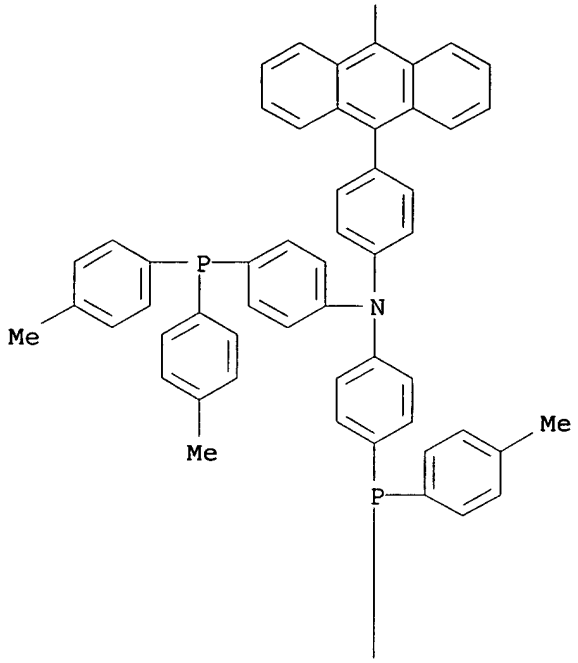

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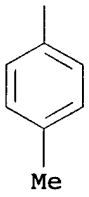

RN 194296-59-8 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-(phenylmethoxy)phenyl]- (9CI) (CA INDEX NAME)

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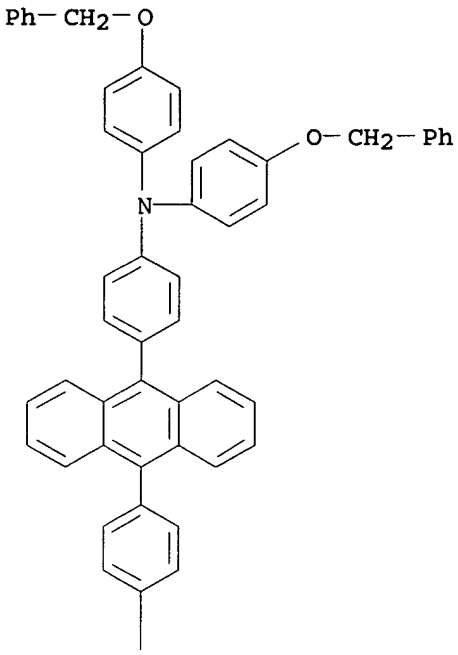

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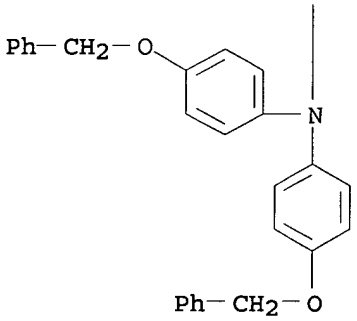

RN 194296-60-1 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-[(phenylmethyl)thio]phenyl]- (9CI) (CA INDEX NAME)

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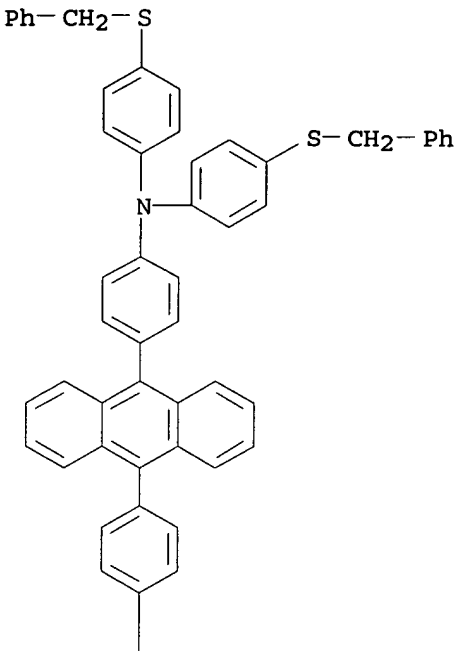

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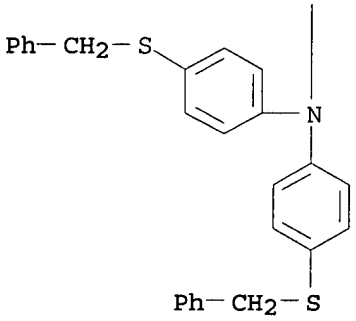

RN 194296-61-2 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-[(phenylmethoxy)methyl]phenyl]- (9CI) (CA INDEX NAME)

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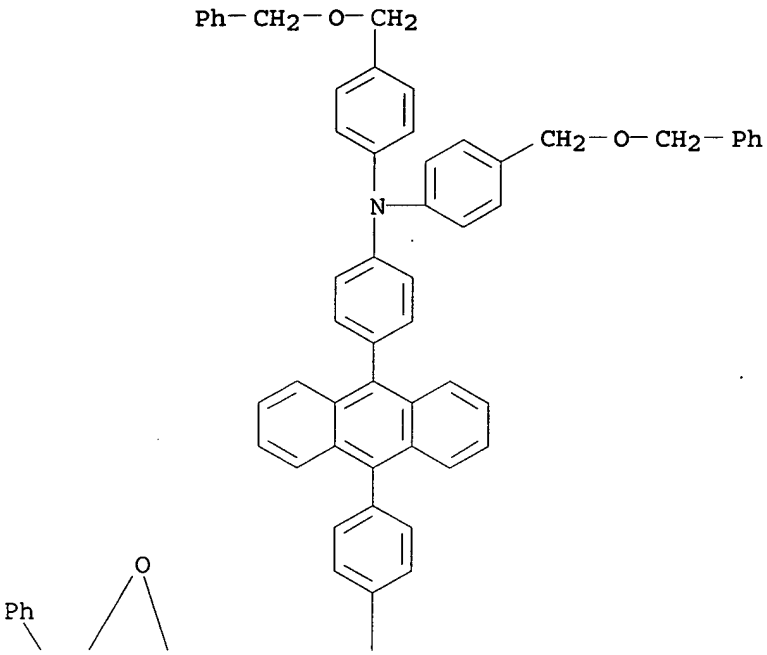

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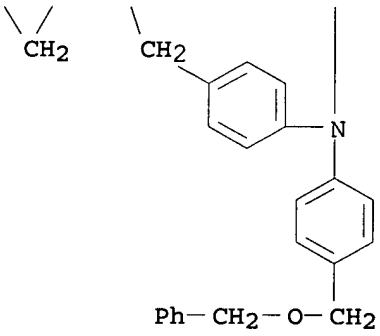
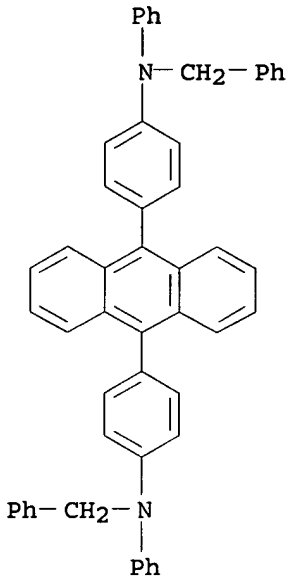


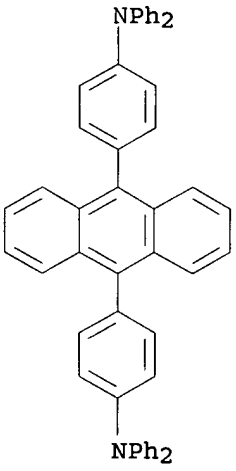
IT **194295-92-6P 194295-98-2P 194296-03-2P 194296-06-5P 194296-42-9P**
(**light-emitting** materials based on bis(aminophenyl)anthracene derivs. for organic electroluminescent devices and the electroluminescent devices and devices using them)

RN 194295-92-6 HCAPLUS

CN Benzenemethanamine, N,N'-(9,10-anthracenediyldi-4,1-phenylene)bis[N-phenyl- (9CI) (CA INDEX NAME)

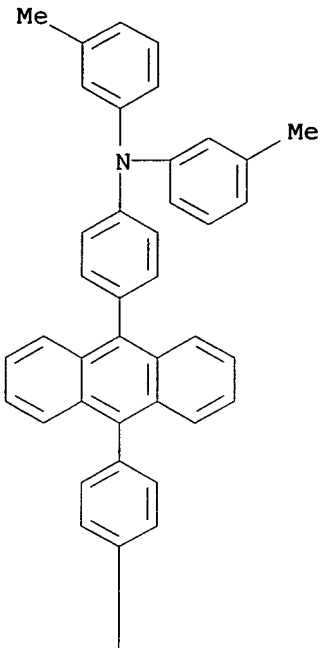


RN 194295-98-2 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 194296-03-2 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis(3-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



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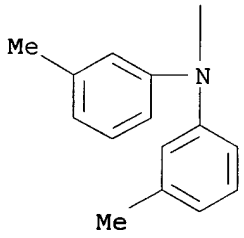
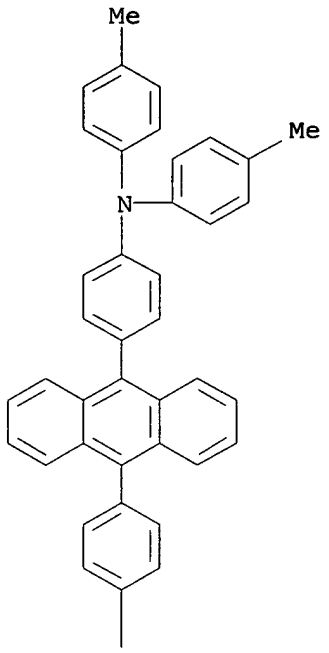


RN 194296-06-5 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis(4-methylphenyl)-
(9CI) (CA INDEX NAME)

PAGE 1-A



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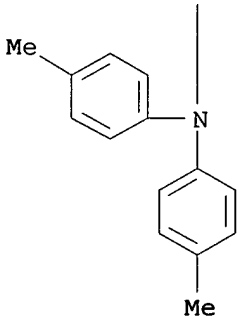

RN 194296-42-9 HCAPLUS
CN Benzenamine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis[4-(1-methyl-1-phenylethyl)phenyl]- (9CI) (CA INDEX NAME)

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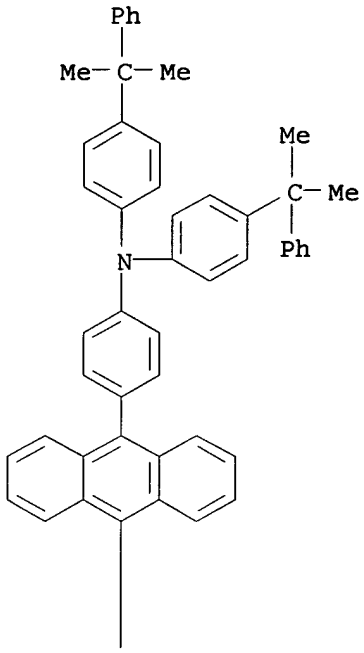

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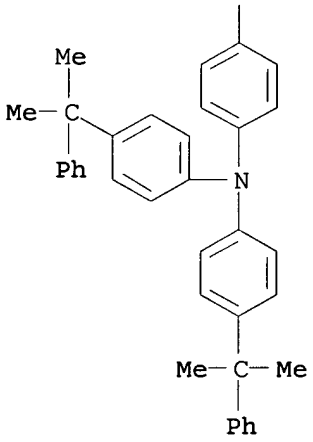

IC ICM H05B033-14
ICS C09K011-06; C07C211-55; C07C211-56
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 52, 76
IT **194295-85-7 194295-89-1 194295-95-9**
194296-08-7 194296-10-1 194296-12-3
194296-14-5 194296-17-8 194296-19-0
194296-21-4 194296-24-7 194296-26-9 194296-28-1
194296-30-5 194296-32-7 **194296-34-9**

194296-36-1 194296-38-3 194296-40-7
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194296-52-1 194296-53-2 194296-54-3
194296-55-4 194296-56-5 194296-57-6
194296-58-7 194296-59-8 194296-60-1
194296-61-2
(**light-emitting** materials based on bis(aminophenyl)anthracene derivs. for organic electroluminescent devices and the electroluminescent devices and devices using them)

IT **194295-92-6P 194295-98-2P 194296-03-2P**
194296-06-5P 194296-42-9P
(**light-emitting** materials based on bis(aminophenyl)anthracene derivs. for organic electroluminescent devices and the electroluminescent devices and devices using them)

L35 ANSWER 33 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:334774 HCAPLUS
DOCUMENT NUMBER: 126:310317
TITLE: Light-emitting material for organic electroluminescence device, and organic electroluminescence device for which the light-emitting material is adapted
INVENTOR(S): Enokida, Toshio; Tamano, Michiko; Okutsu, Satoshi
PATENT ASSIGNEE(S): Toyo Ink Manufacturing Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 46 pp.
CODEN: EPXXDW
DOCUMENT TYPE: **Patent**
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 765106	A2	19970326	EP 1996-305586	19960730 <--
EP 765106	A3	19970813		
EP 765106	B1	20021127		
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EP 1146034	A1	20011017	EP 2001-113795	19960730 <--
R: DE, FR, GB				
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KR 204220	B1	19990615	KR 1996-42007	19960924 <--
US 6251531	B1	20010626	US 1998-30791	1998

0226
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PRIORITY APPLN. INFO.: JP 1995-245607 A
1995
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JP 1996-12430 A
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EP 1996-305586 A3
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OTHER SOURCE(S): MARPAT 126:310317

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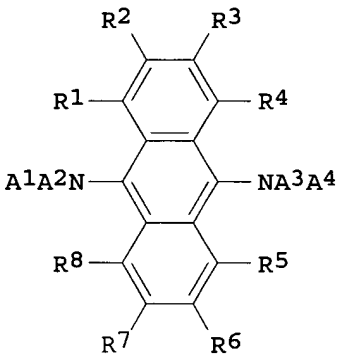


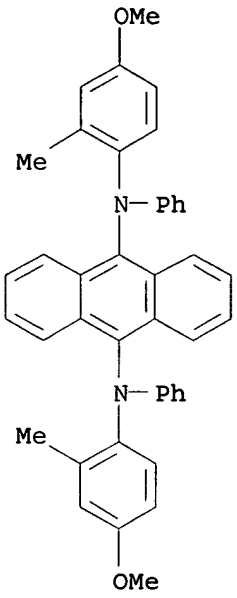
I

AB The title light-emitting compds. are described by the general formula I (A1-A4 are individually selected C6-16 substituted or unsubstituted aryl groups; and each of R1-8 is independently a hydrogen atom, a halogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, a substituted or unsubstituted aryl group or a substituted or unsubstituted amino group, provided that adjacent substituents may form an aryl ring). Use of the compds. as light-emitting materials in organic electroluminescent devices, and organic electroluminescent devices containing them, are also described.

IT **177799-13-2 177799-16-5 189263-81-8**
189263-82-9 189263-83-0 189263-84-1
189263-85-2 189263-86-3 189263-87-4
189263-88-5 189263-89-6 189263-90-9
189263-91-0 189263-92-1 189263-93-2
189263-94-3 189263-96-5 189263-97-6
189263-98-7 189263-99-8 189264-00-4
189264-01-5
(anthracenediamine derivative-based **light-emitting** materials for organic electroluminescent devices and the devices)

RN 177799-13-2 HCAPLUS

CN 9,10-Anthracenediamine, N,N'-bis(4-methoxy-2-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



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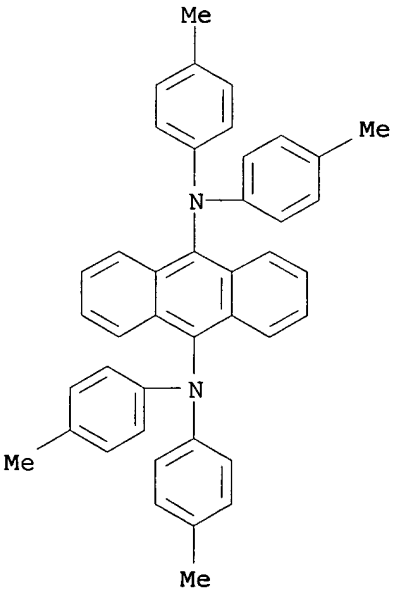

RN 189263-81-8 HCAPLUS
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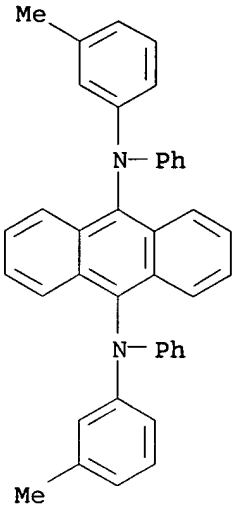
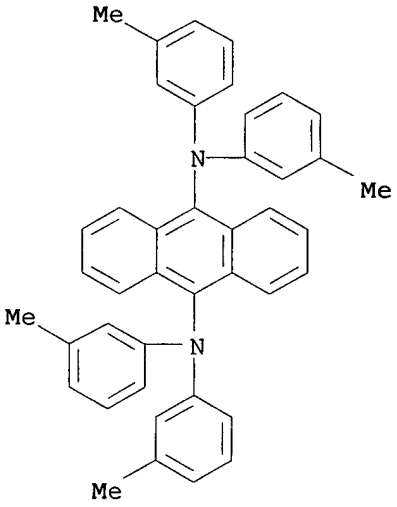
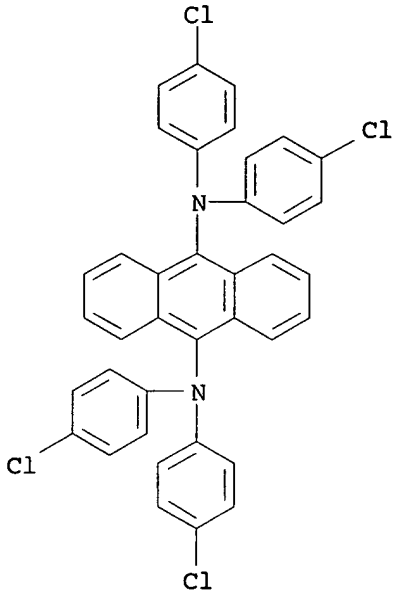


RN 189263-82-9 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetrakis(3-methylphenyl)- (9CI)
(CA INDEX NAME)



RN 189263-83-0 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetrakis(4-chlorophenyl)- (9CI)
(CA INDEX NAME)



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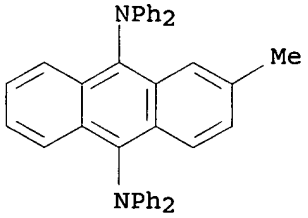

RN 189263-85-2 HCAPLUS
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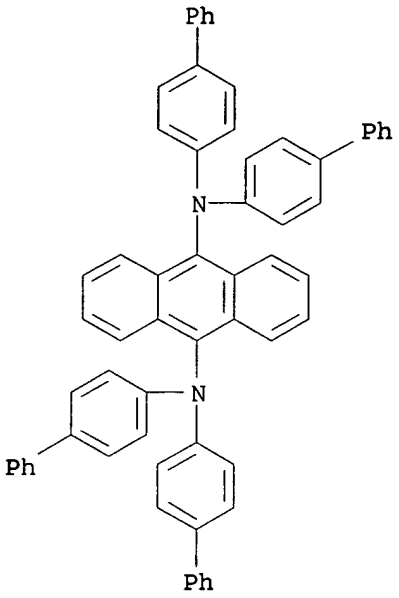

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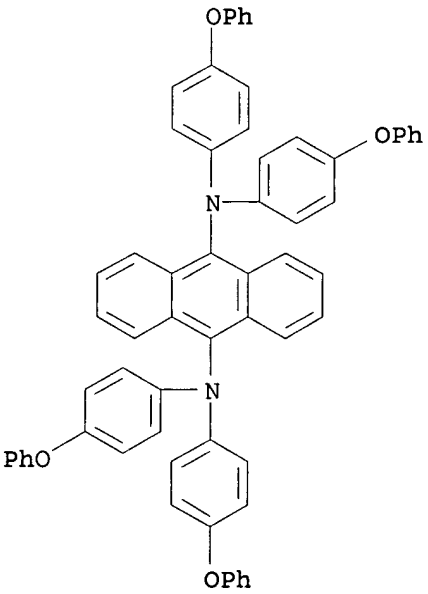

RN 189263-87-4 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetra-1-naphthalenyl- (9CI) (CA INDEX NAME)

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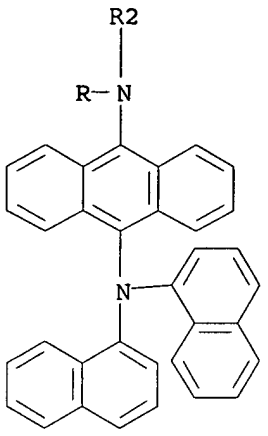

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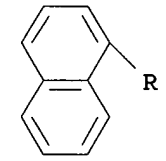

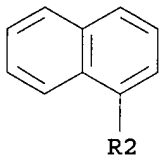

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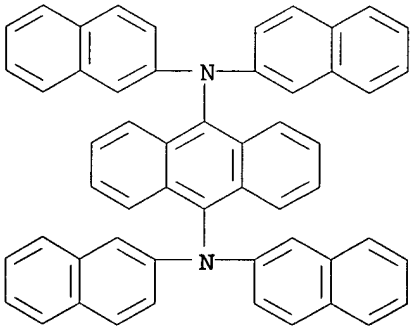
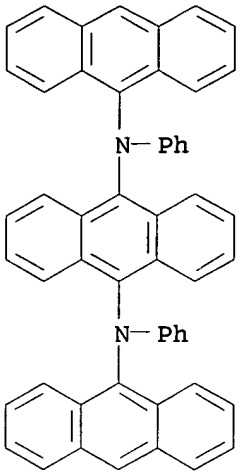
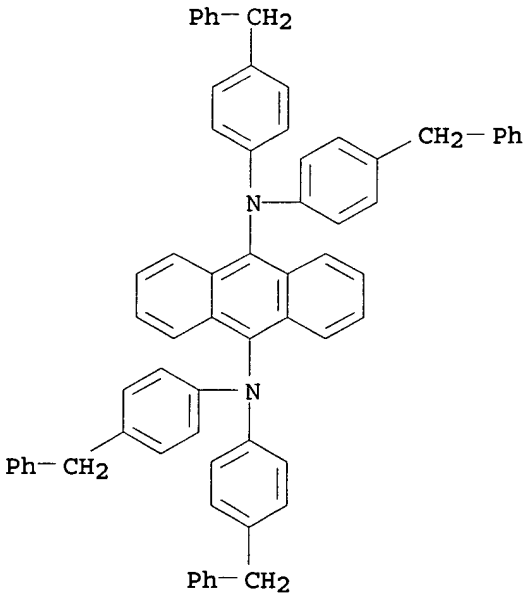


RN 189263-89-6 HCAPLUS
CN 9,10-Anthracenediamine, N,N'-di-9-anthracenyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)



RN 189263-90-9 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetrakis[4-(phenylmethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 189263-91-0 HCAPLUS
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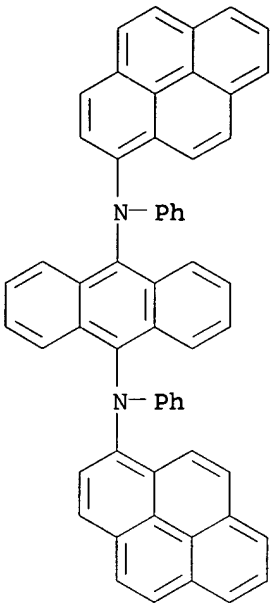

RN 189263-92-1 HCAPLUS
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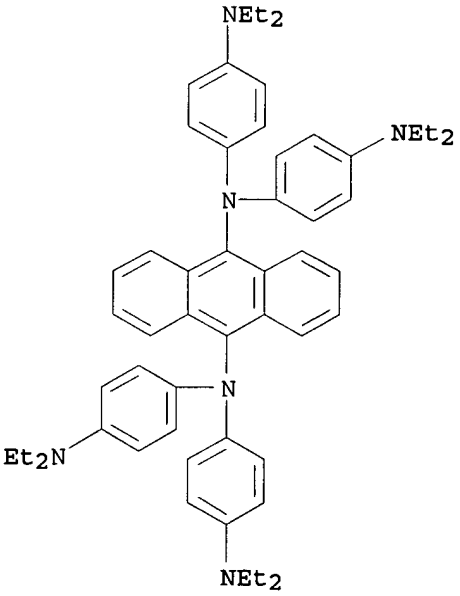

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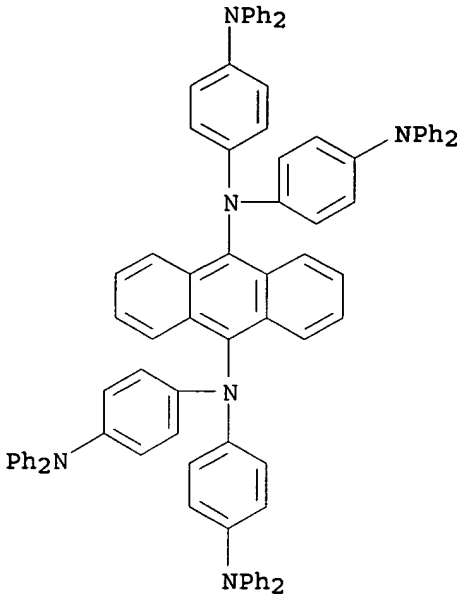
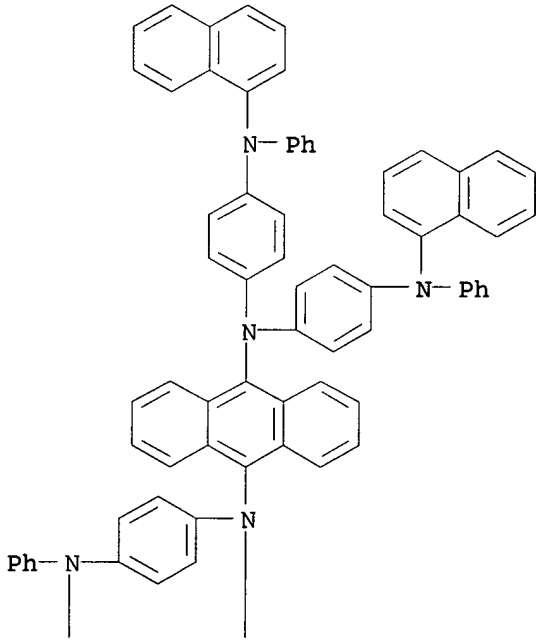


RN 189263-94-3 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetrakis[4-(1-naphthalenylphenylamino)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



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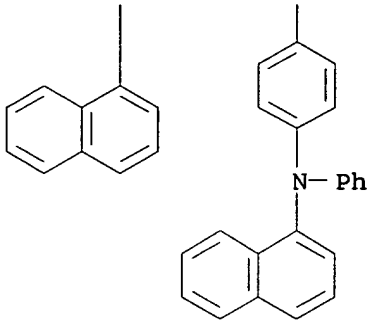

RN 189263-96-5 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetrakis[4-[2,2,2-trifluoro-1-phenyl-1-(trifluoromethyl)ethyl]phenyl]- (9CI) (CA INDEX NAME)

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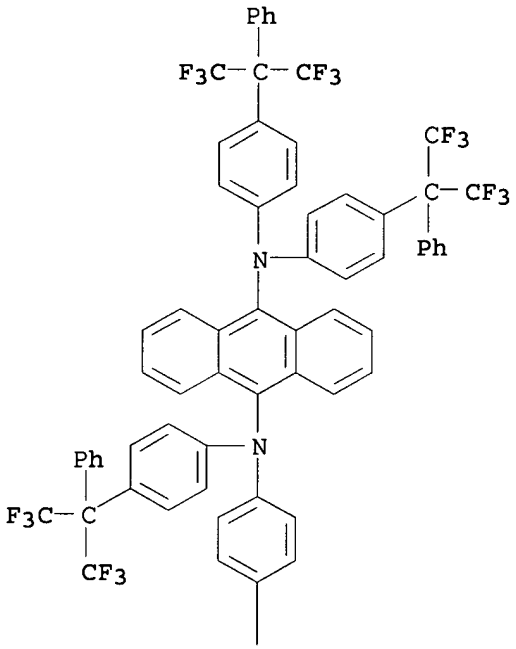

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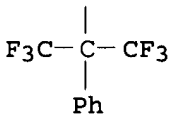
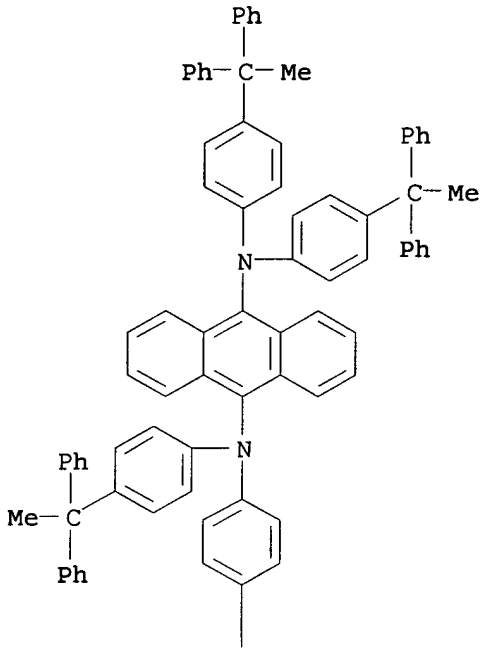


RN 189263-97-6 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetrakis[4-(1,1-

diphenylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



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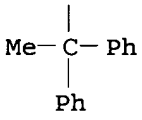

RN 189263-98-7 HCAPLUS
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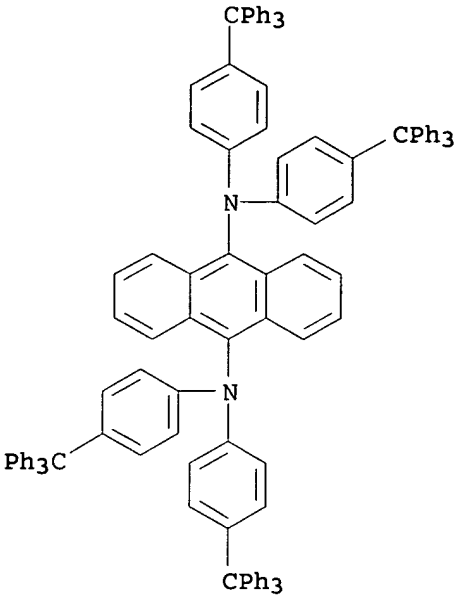
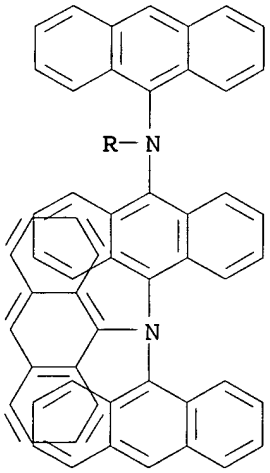


RN 189263-99-8 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetra-9-anthracenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



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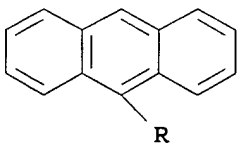

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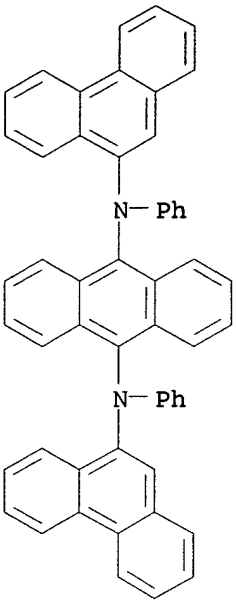

RN 189264-01-5 HCAPLUS
CN 9,10-Anthracenediamine, N,N,N',N'-tetra-1-pyrenyl- (9CI) (CA INDEX NAME)

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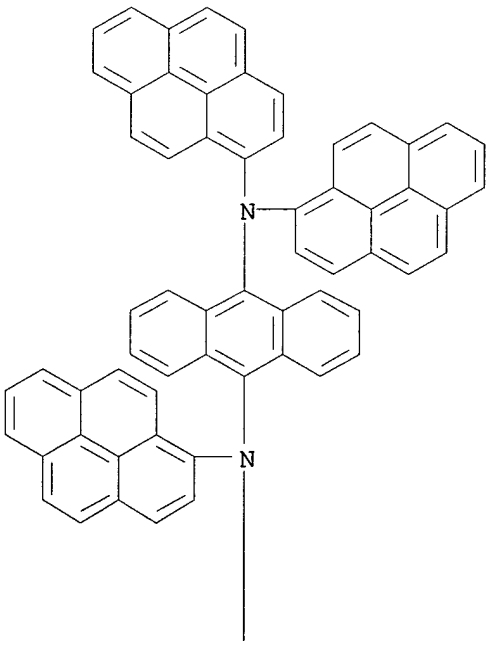

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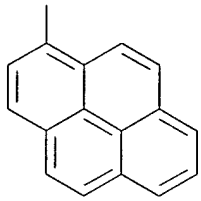

IT **177799-11-0P 177799-12-1P 177799-14-3P 177799-15-4P**
(anthracenediamine derivative-based **light-emitting** materials for organic electroluminescent devices and the devices)

RN 177799-11-0 HCAPLUS

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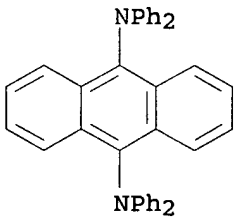

RN 177799-12-1 HCAPLUS

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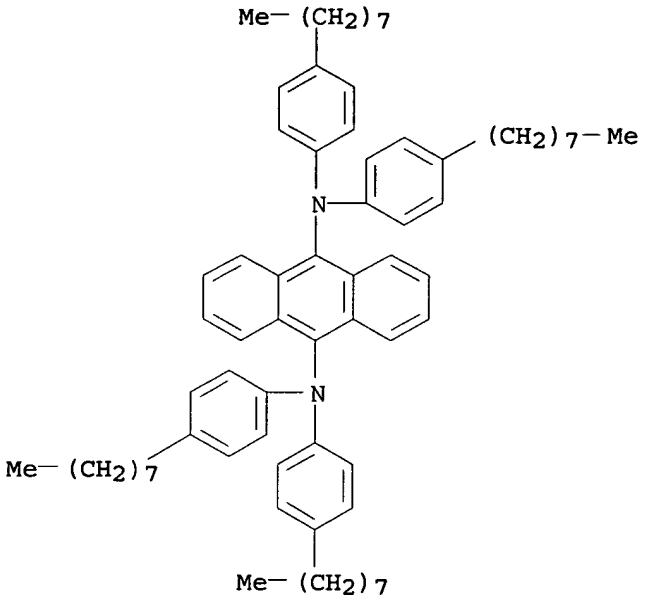

RN 177799-14-3 HCAPLUS
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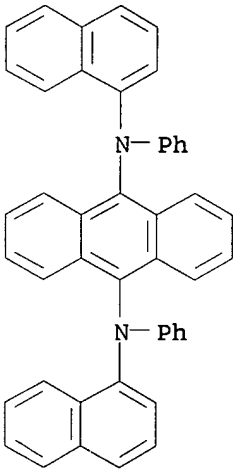

RN 177799-15-4 HCAPLUS
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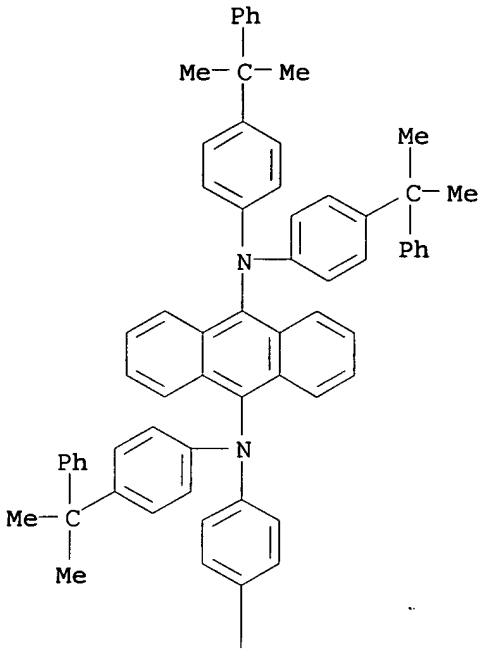

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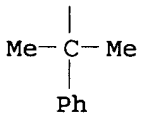


IC ICM H05B033-14
ICS C09K011-06

CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25

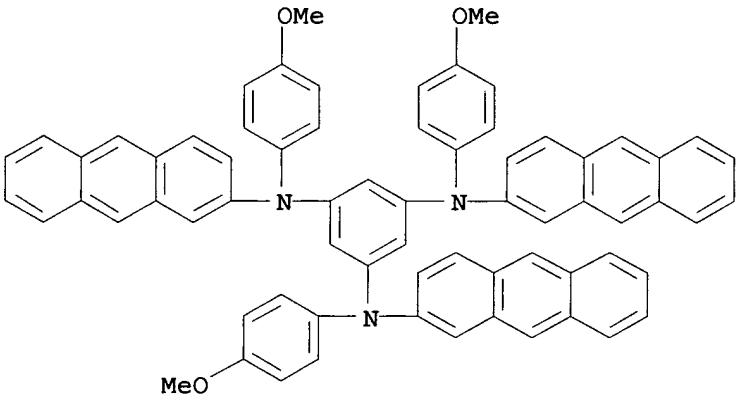
IT **177799-13-2 177799-16-5 189263-81-8 189263-82-9 189263-83-0 189263-84-1 189263-85-2 189263-86-3 189263-87-4 189263-88-5 189263-89-6 189263-90-9 189263-91-0 189263-92-1 189263-93-2 189263-94-3 189263-96-5 189263-97-6 189263-98-7 189263-99-8 189264-00-4 189264-01-5**
(anthracenediamine derivative-based **light-emitting** materials for organic electroluminescent devices and the devices)

IT **177799-11-0P 177799-12-1P 177799-14-3P 177799-15-4P**
(anthracenediamine derivative-based **light-emitting** materials for organic electroluminescent devices and the devices)

L35 ANSWER 34 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:224297 HCAPLUS
DOCUMENT NUMBER: 126:299494
TITLE: New hole transport material for organic light emitting devices
AUTHOR(S): Thelakkat, Mukundan; Bacher, Andreas; Fink, Ralf; Haubner, Frank; Schmidt, Hans-Werner
CORPORATE SOURCE: Makromolekulare Chemie I, Universitaet Bayreuth, Bayreuth, 95440, Germany
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1997), 38(1), 396-397
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The triphenylamine derivs. having high polarization potentials and high Ts were synthesized. The materials can be used as hole transport materials and as emitters in electroluminescent devices. The synthesis, spectral properties and their applications in LEDs are described.

IT **189178-05-0P**
(synthesis and properties and application of new hole transport material for organic **light emitting** devices)
RN 189178-05-0 HCAPLUS
CN 1,3,5-Benzenetriamine, N,N',N''-tri-2-anthracenyl-N,N',N''-tris(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
IT 15546-43-7P 20441-07-0P 107001-70-7P 122738-21-0P 126738-30-5P 137832-75-8P 184895-04-3P 184895-05-4P 189178-04-9P **189178-05-0P** 189178-07-2P 189178-08-3P 189178-09-4P
(synthesis and properties and application of new hole transport material for organic **light emitting** devices)

L35 ANSWER 35 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:68969 HCAPLUS
DOCUMENT NUMBER: 126:110853
TITLE: Benzoxazine material for organic

electroluminescent device with high luminance

INVENTOR(S): Enokida, Toshio; Onikubo, Shunichi; Tamano, Michiko

PATENT ASSIGNEE(S): Toyo Ink Mfg Co, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF

DOCUMENT TYPE: **Patent**

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

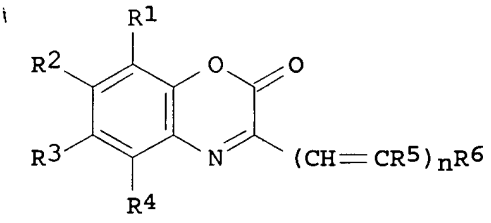
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08298186	A2	19961112	JP 1995-105219 <--	19950428

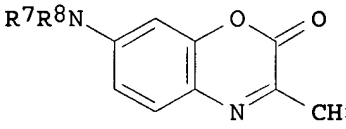
PRIORITY APPLN. INFO.: JP 1995-105219 <-- 19950428

OTHER SOURCE(S): MARPAT 126:110853

GI



I

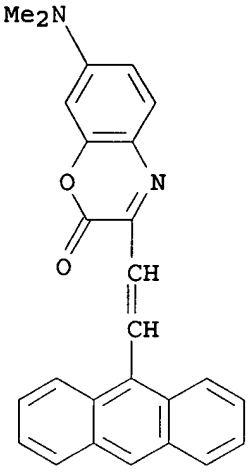


II

AB The material comprises a benzoxazine derivative I or II [R1-4 = H, halo, alkyl, alkoxy, thioalkoxy, NH2, monosubstituted or disubstituted amino, OH, SH, CN, aryloxy, arylthio, alicyclic group, aromatic group, heterocyclic group; R1-4 may form (un)substituted alicyclic group, (un)substituted aromatic group, or (un)substituted heterocyclic group; R5-6 = H, alkyl, alicyclic group, aromatic group, heterocyclic group; n = 0-2; R7-10 = H, alkyl, alicyclic group, aromatic group, heterocyclic group; R1-10 may be substituted]. The device contains the material. The device has a light-emitting layer containing a quinoline metal complex and the material. The device showed high luminance and red-emitting luminescent efficiency.

IT **185505-48-0**
(benzoxazine derivative for red-emitting electroluminescent device with high **luminance**)

RN 185505-48-0 HCAPLUS
CN 2H-1,4-Benzoxazin-2-one, 3-[2-(9-anthracenyl)ethenyl]-7-(dimethylamino)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-00; C09K011-06; C07D265-36
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 28
IT 54016-38-5 92510-33-3 92510-34-4 113501-50-1 137334-95-3
139693-20-2 185505-35-5 185505-36-6 185505-38-8
185505-39-9 185505-40-2 185505-41-3 185505-43-5
185505-44-6 185505-45-7 185505-46-8 185505-47-9
185505-48-0 185505-49-1 185505-50-4 185505-51-5
185505-54-8 185505-63-9 185505-65-1 185505-67-3
185505-68-4 185505-71-9 185505-75-3
(benzoxazine derivative for red-emitting electroluminescent device with high **luminance**)

L35 ANSWER 36 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:317176 HCAPLUS
DOCUMENT NUMBER: 125:70553
TITLE: Synthesis of polymer with bisstyrylanthracene chromophore on polymer skeleton and application to electroluminescent devices
AUTHOR(S): Kim, Dong Uk; Tsutsui, Tetsuo
CORPORATE SOURCE: Dep. of Materials Science and Technology, Kyushu Univ., Kasuga, 816, Japan
SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1996), 280, 325-329
CODEN: MCLCE9; ISSN: 1058-725X
PUBLISHER: Gordon & Breach
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Novel EL polymer, in which 9,10-bis[4-(N,N-diphenylamino)-styryl]anthracene chromophore (polymer-BSA) was synthesized. Two kinds of EL devices were fabricated, one is a single-layer device, ITO/polymer-BSA/MgAg. The other is a double-layer device, ITO/polymer-BSA/OXD-7/MgAg, in which a vacuum-sublimed

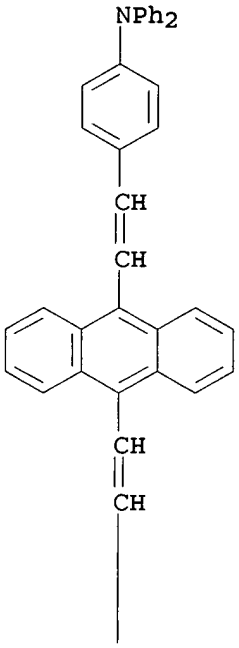
1,3-bis(4-tert-butylphenyl-1,3,4-oxidazolyl)phenylene (OXD-7) layer plays the roles of electron transport and hole blocking. The quantum efficiency of the double-layer device was observed .apprx.60 times higher than that of the single-layer device. In the double-layer device, the maximum c.d. of 40 mA/cm2 was observed at the applied voltage of 23 V and the maximum luminance was .apprx.60 cd/m2. EL spectra of the single-layer and double-layer devices have peaks at .apprx.595 nm, which coincided with a photoluminescence spectrum of a polymer-BSA film.

IT **138685-19-5**
(**luminescence** compared to polymer; synthesis and electroluminescent device applications of polymer incorporating anthracene chromophore)

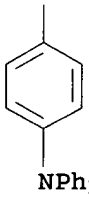
RN 138685-19-5 HCAPLUS

CN Benzenamine, 4,4'-(9,10-anthracenediyldi-2,1-ethenediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



CC 73-5 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)

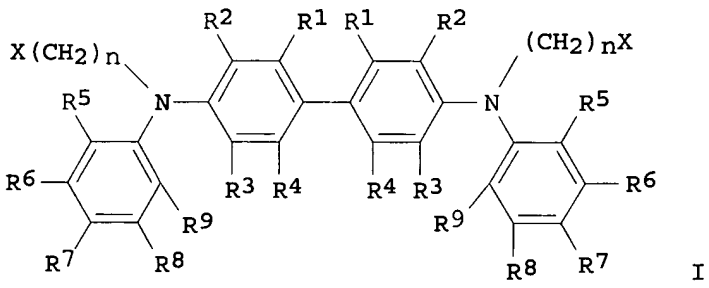
Section cross-reference(s): 35, 36, 76

IT **138685-19-5**
(**luminescence** compared to polymer; synthesis and electroluminescent device applications of polymer incorporating anthracene chromophore)

L35 ANSWER 37 OF 37 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:884695 HCAPLUS
DOCUMENT NUMBER: 123:301111
TITLE: Diphenylamine derivative and field-effect electroluminescent device using it
INVENTOR(S): Uchino, Masazumi; Izumisawa, Jusho; Uchida, Manabu; Furukawa, Kenji
PATENT ASSIGNEE(S): Chisso Corp, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07224012	A2	19950822	JP 1994-34150 <--	19940207
JP 3579746	B2	20041020		

PRIORITY APPLN. INFO.: JP 1994-34150 <-- 19940207
OTHER SOURCE(S): MARPAT 123:301111
GI



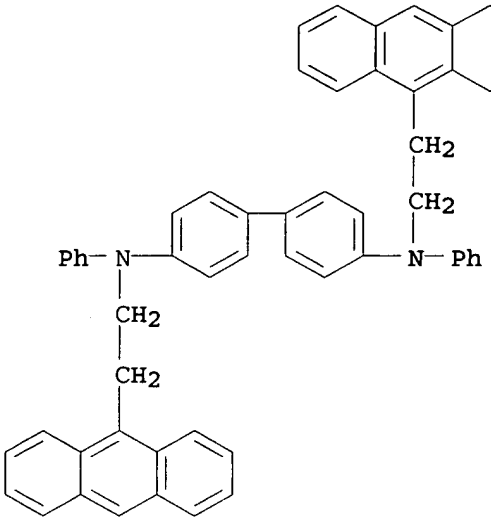
I

AB The diphenylamine derivative is I (X = none, halo, NH2, cyano, alkoxycarbonyl, alkyl, alkoxy, allyl, aralkyl-substituted anthracenyl, phenanthrenyl, pyrenyl, perylenyl; n = 1-10; R1-9 = H, F, Cl, Br, NH2, cyano, alkoxycarbonyl, alkyl, alkoxy, allyl, aralkyl). The device contains I as a light-emitting material or hole-injecting-transporting material. The device shows high luminescent intensity and efficiency.

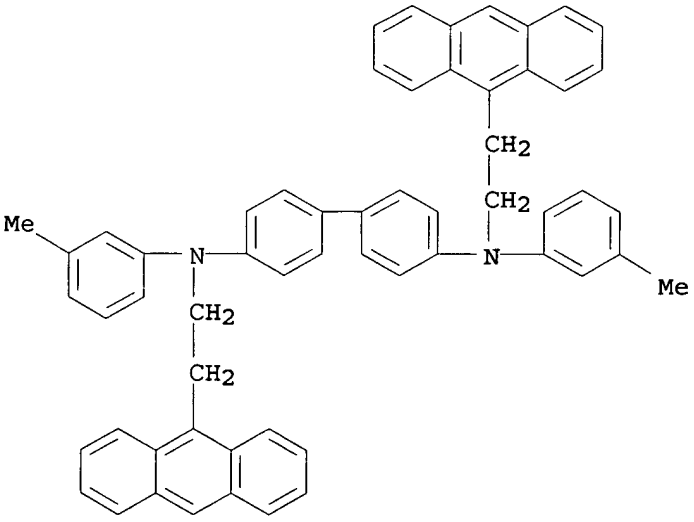
IT **170023-19-5P 170023-20-8P 170023-21-9P 170023-23-1P**
(diphenylamine derivative and field-effect electroluminescent

device with high **luminescent** intensity and efficiency)

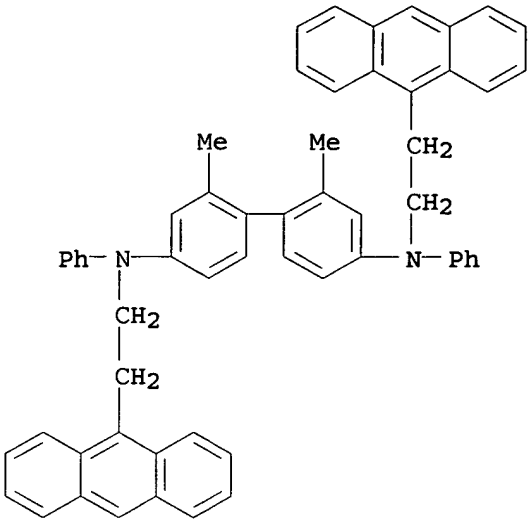
RN 170023-19-5 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis[2-(9-anthracenyl)ethyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



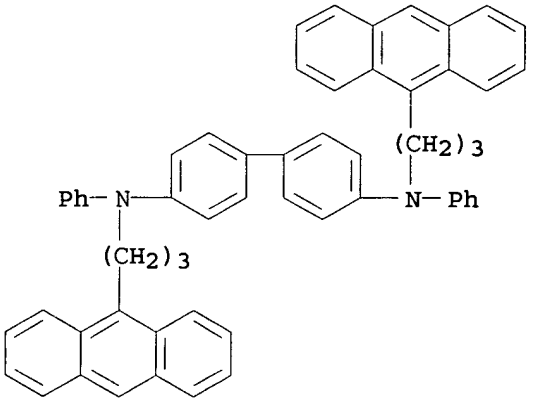
RN 170023-20-8 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis[2-(9-anthracenyl)ethyl]-N,N'-bis(3-methylphenyl)-. (9CI) (CA INDEX NAME)



RN 170023-21-9 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis[2-(9-anthracenyl)ethyl]-2,2'-dimethyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)



RN 170023-23-1 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis[3-(9-anthracenyl)propyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)



IC ICM C07C211-61
ICS C07C255-24; C07C255-58; C09K011-06; H05B033-14
CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25
IT **170023-19-5P 170023-20-8P 170023-21-9P**
170023-22-0P **170023-23-1P**
(diphenylamine derivative and field-effect electroluminescent device with high **luminescent** intensity and efficiency)